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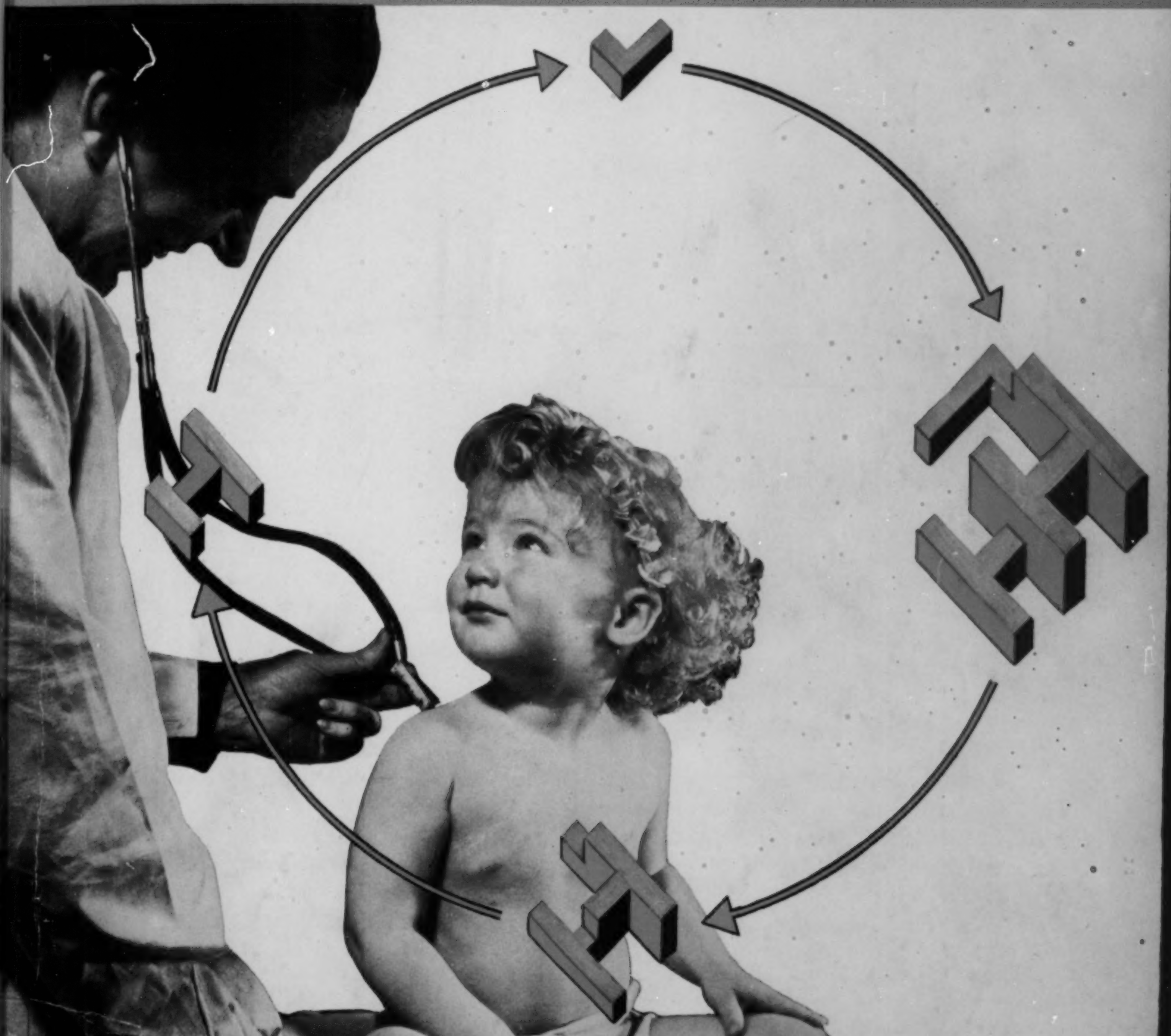
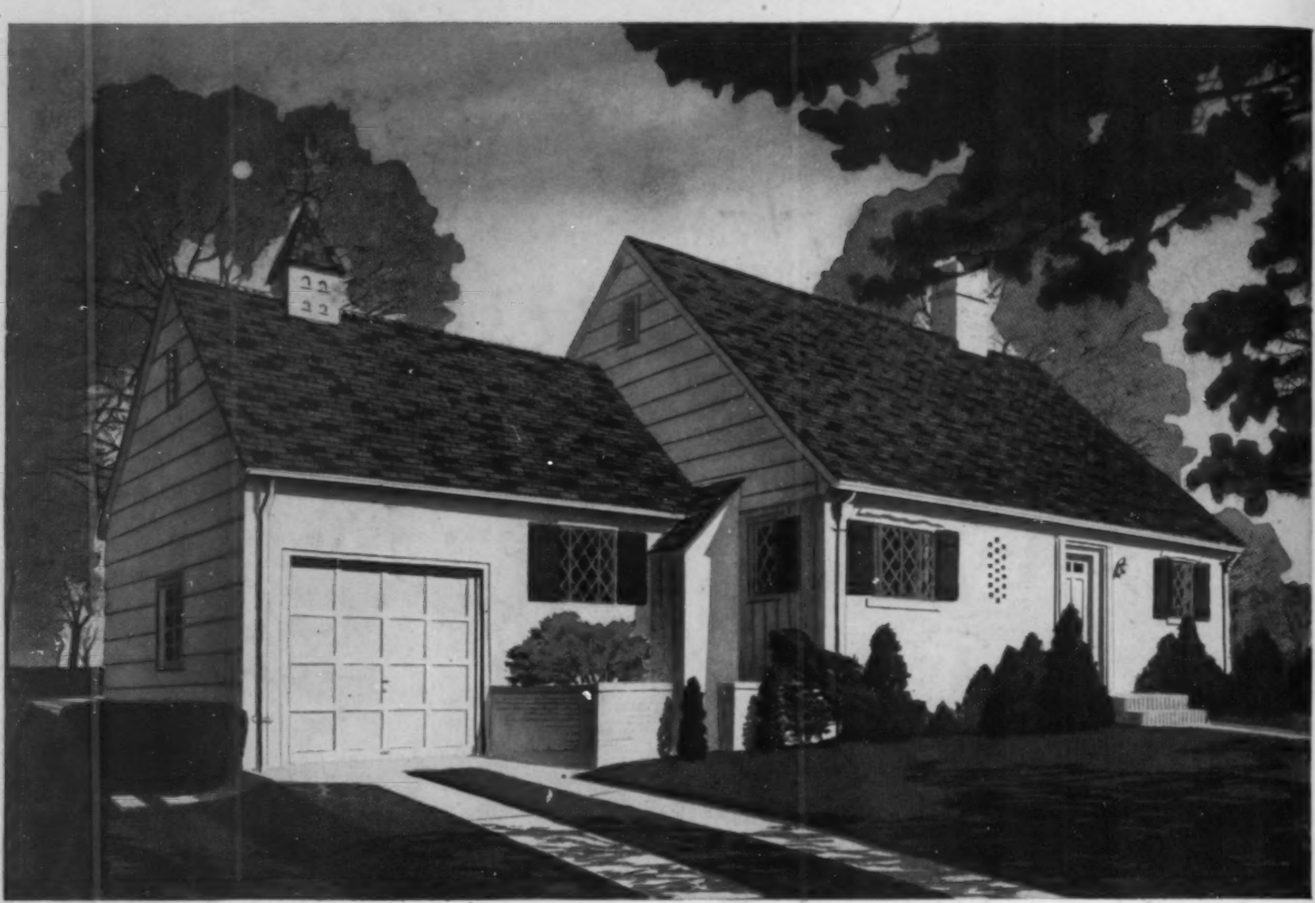


HOSPITALS

JANUARY 1948



GIVE THIS *Double Feature* TOP BILLING

The roof plays a featured role in any building program. And, when that roof is shingled with Flintkote Thikbuts, it's a *double* feature.

Why? Because these sturdy shingles are designed to combine beauty and durability.

You see, to make Thikbuts, we start with a regular Flintkote Asphalt Shingle. Then, on the exposed tabs ... where weather-resistance is most needed ... we add the extras. A thick, *extra* layer of Flintkote stabilized asphalt coating. A generous *extra* coating of fireproof mineral granules.

The result is virtually "two shingles for the price of one." A modern, moderately-priced roofing material that gives extra years of service ... at no extra cost.

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FLINTKOTE MAKES A COMPLETE LINE OF BUILDING MATERIALS . . . **Asbestos-Cement Shingles and Sidings • Asphalt Coatings • Asphalt Shingles and Sidings • Building Papers • Decorative Insulation Board • Fiberglas* Insulating Wool • Hot and Cold Built-Up Roofings • Insulated Sidings • Roll Roofings and Sidings • Structural Insulation Board.** (*TM Reg. U. S. Pat. Off. Mfg. by Owens-Corning Fiberglas Corp.)

FLINTKOTE BUILDING MATERIALS

FLINTKOTE

the extra years of service cost no more

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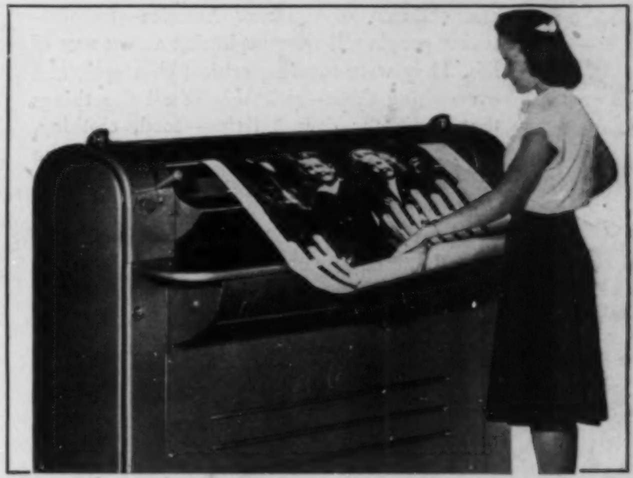
Now an easy desk job. You remain seated, relaxed. All controls within easy reach. Prints are delivered on top, completely dry. Another advantage: You can install your Streamliner in any drafting room or office. Only 6 square feet of floor space is required.



A minute ago—engineering drawings. Now she's producing beautiful Ozalid Dryphotos in seconds, in exactly the same manner. Note the size: Ozalid prints can be up to 42" wide, any length. You can reproduce advertising posters, accounting reports—the work of all departments.

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Montgomery Ward Co.
New York Central Railroad
Northern Pacific Railway Co.
Pan American Airways, Inc.
Paramount Pictures, Inc.
Parke, Davis & Co.
Pittsburgh Plate Glass Co.
Remington Rand
Scovill Manufacturing Co.
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Standard Oil Co.
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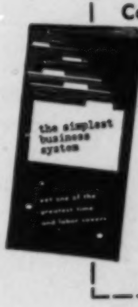
DEPT. NO. 7

OZALID Division of General Aniline & Film Corporation, Johnson City, New York



Gentlemen: Please send free, 24-page, illustrated booklet . . . showing all of Streamliner's uses and 10 types of Ozalid prints.

Name________________

Position________________

Company________________

Address________________

Ozalid in Canada—Hughes Owens Co., Ltd., Montreal

101 DISPLACED PERSONS

IN A STRANGE NEW LAND they stood—these displaced persons. Silent men with grim tasks ahead worked purposefully and with little thought of the fatigue that racked their weary bodies. They were building a new community—their community.

Women, hollow-eyed, their white drawn faces mirroring pain, went about setting their humble homes in order. On every side was hunger, privation—the plight of desperate people—"A picture of Europe, 1948?" . . . you ask.

No—a picture of America, 1620.

●

For here, 101 displaced Pilgrims—men, women and children of the new America—freedom-loving people all, were beginning a new way of life. They were meeting critical shortages, and overcoming them—shortages of all the things that make for decent living—food, clothing, shelter . . . shortages that relatively were the greatest our nation has *ever known*.

There was a 100% shortage of almost everything on that day, 328 years ago, when their storm-battered ship nosed into the quieter waters of rock-studded coastal bays. Yes, a shortage of everything except COURAGE—a belief in the dignity of man—a passionate desire on the part of each to live as he liked.

●

Perhaps it was the strong driving force of the urge to be free men that enabled them to solve the critical shortages of their day. For you see, no one could pass a law providing new homes or schools . . . nor were there any homes here ready for them to occupy.

So, with bare hands and primitive tools, they individually dug from the earth and cut from the forests their own homes and schools. Ceaselessly and endlessly they worked at their simple tasks, struggling for necessities . . . looking ahead, not behind . . . building a heritage for millions of Americans to come.

Are we less courageous than they?
Is war-scarred Europe more
destitute than they were?
Is there less hope in our time than theirs?
Are our shortages more acute than 100%?

There is a simple answer to those questions and to the problem they pose. It is a WORD. A short word, without glamour, but a virile word of dynamic force . . . a word, that in its simplicity, might be overlooked, but a word so powerful as to be virtually magic.

It isn't a new word to Ceco thinking, for in January 1947 we said this word was the key to better times—to security for all.

May we say it again?

It is W-O-R-K—a four-letter word for continuing prosperity, for preserving freedom in America and for providing hope throughout the world. As we said before, *everyone* must work more . . . produce more—*management* and *labor*.

●

Suppose we look at the simple mathematics of the problem. There just aren't enough homes, schools, hospitals, roads, to satisfy the needs of all—not enough steel, automobiles, freight cars, food . . . for America and the rest of the world. How can more of these scarce things be made available sooner, and at LOWER PRICES?

We, like you, have heard many so-called cure-alls. Some say too many have too much money . . . they bid against each other for scarce things and thus keep prices ever moving upward, so taxes must be raised, not lowered—must be kept high to draw off excess money. Credit must be curtailed so buying will be slowed down. Or prices must be regulated and goods rationed.

Others say don't buy unless your needs are desperate, quit eating certain foods certain days, don't build now . . . don't . . . don't . . . don't . . . verboten. It all has a familiar ring somehow. It's a creed of hopelessness—of negation.

Let's hear a new voice in America, raised high in a mighty crescendo, drowning out those voices of fear. Yes, a new voice of hope, which will say in clear unmistakable tones of triumph . . .

"Let's DO something . . . yes, let's
trade DO for DON'T."

We of Ceco believe the American way to solve the problem of shortages and high prices is one of action . . . one of *doing* . . . of *making more things*, not buying less of what we have, of increasing prosperity . . . not dividing misery. And prosperity comes from *making a lot* for all . . . not *dividing a little* with all.

vs. 60,000,000 EMPLOYED . .

Look at it this way. There are some 60,000,000 adults—men and women—employed in the nation today, making things for the more than 140,000,000 Americans and the many, many millions in all the other countries of the world. Now we can't increase our 60,000,000 employed to any great degree very fast. They just about represent today's manpower capacity—but, if everyone of those 60,000,000 . . . executives . . . managers . . . labor . . . white collar people, *ALL* of America's working force, produced more ***individually***, things would become more plentiful and prices would be reduced.

It's basically that simple.

●

Yes . . . we 60,000,000 Americans must work more, produce more, instead of less, and that goes for EUROPE and EVERY OTHER PART of the world. Everywhere we must increase man-hour output . . . bricklayers must lay ***more*** bricks, architects create ***more*** buildings, miners dig ***more*** coal, farmers raise ***more*** produce, stenographers write ***more*** letters, managers do ***more*** managing . . . and this must go clear back through the entire economy from raw materials to manufactured products.

Then, and only then, will scarce things be plentiful . . . will money stop bidding up prices . . . will inflation be halted and a sound basis be established for the security of all, both ***labor*** and ***capital.***

Given a freer rein this past year, the building industry made real progress in cutting down building shortages. For example, twice as many homes were completed in 1947, as compared to 1946 . . . plant expansion is getting closer to demand. Ceco salutes construction men for the job they are doing.

We like to feel that in some measure we have been helpful in this progress. Here are some of the things we have done to help the building industry in 1947.

Our production in 1947 nearly absorbed manufacturing capacity, which was doubled in 1946 • New fabricating plants were erected in Hillside, New Jersey and Houston, Texas • Personnel in plants, offices and sales force increased more than 50% • More than 100 improvements were effected in our products • More than one-third of our new products developed since the war were put in production.

●

But what about the future?

Today, as was true a year ago, the building industry faces an imposing demand for all types of construction. People want more homes, schools, roads, and will get them if an ***unhampered*** building industry is permitted to provide them . . . could get them at lower prices, too, if ALL would WORK to produce MORE, not less.

We of Ceco believe in America's future, in its ability to meet the challenge of world leadership —for after all, a way of life that has given Americans more of the good things of earth than any other people anywhere doesn't have to be ***proven*** . . . it is proven . . . ***it is working.***

As for the building industry, Ceco has confidence ***we can*** count on our architects, engineers, contractors, builders and industry labor, to provide the structural needs of our nation. To this end the industry—America—can count on Ceco.

CECO
STEEL

PARTIAL LIST OF CECO PRODUCTS • METAL WINDOWS AND DOORS • METAL FRAME SCREENS • STEEL JOISTS AND ROOF DECK • METAL LATH AND ACCESSORIES • MEYER STEELFORMS • CONCRETE REINFORCING BARS • WELDED STEEL FABRIC • HIGHWAY PRODUCTS • CORRUGATED ROOFING • LOUVRE VENTILATORS

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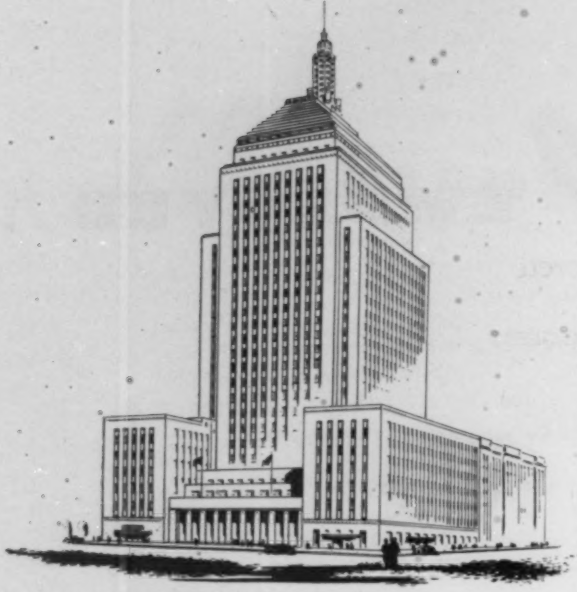
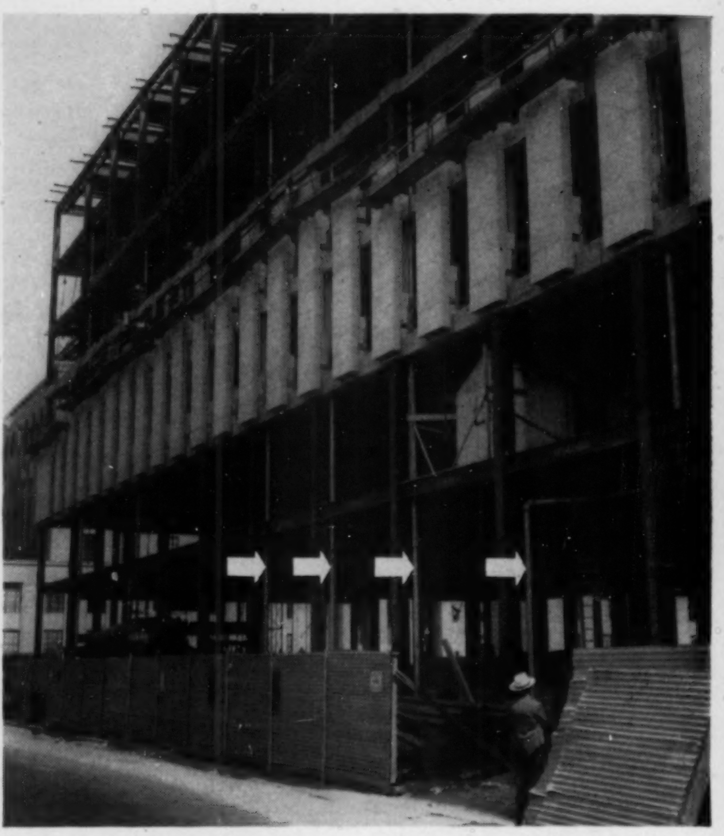
Offices, warehouses and fabricating plants in principal cities



JOHN HANCOCK
MUTUAL LIFE INSURANCE COMPANY BUILDING

Cram and Ferguson, *Architects and Engineers*
Turner Construction Company, *Builders*
John F. McCarron, *Plumbing Engineer*
M. Ahern Company, *Plumbing Contractors*
Buerkel and Company, *Heating Engineers & Contractors*



8 Piping Services—Radiant Heating—Snow Melting—all

Byers Wrought Iron Pipe

Now rapidly nearing completion, the new home of the John Hancock Mutual Life Insurance Company incorporates a number of new ideas . . . and retains some proven old ones!

Radiant heating is installed in the main lobby, the theatre lobby, and the truck loading space. Snow melting systems are located in three sidewalks. In both cases, Byers Wrought Iron pipe is the coil material.

MAINTENANCE CONTROL

The plumbing and heating specifications for time-tried wrought iron reflect today's need for maximum durability in materials, in order that costly maintenance can be avoided. Drainage, waste, vent, down-spout, fire and soap lines in the plumbing system, and concealed supply lines and the entire return system in the heating installation, are all Byers Wrought Iron pipe. Some of these services are indicated by arrows in the illustration.

HOME-GROUND EVIDENCE

Boston provides plenty of evidence of the superior durability of wrought iron. In one building, for instance, wrought iron steam return lines were still on the job after 60 years, and in another structure after 65 years. It is still serving in numerous buildings after 40 years and more.

WHY WROUGHT IRON LASTS

Wrought iron's endurance comes from the network of glass-like silicate slag fibers which are threaded through its high-purity iron body. These fibers halt and "detour" corrosive attack. They also anchor the initial protective scale, which shields the underlying metal.

ASK FOR THIS BULLETIN

Our bulletin, "Wrought Iron for Piping Systems", will give you helpful data on applying wrought iron in building applications. Ask for a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

CORROSION COSTS YOU MORE THAN WROUGHT IRON

BYERS
GENUINE WROUGHT IRON
TUBULAR AND HOT ROLLED PRODUCTS
ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

ARCHITECTURAL RECORD

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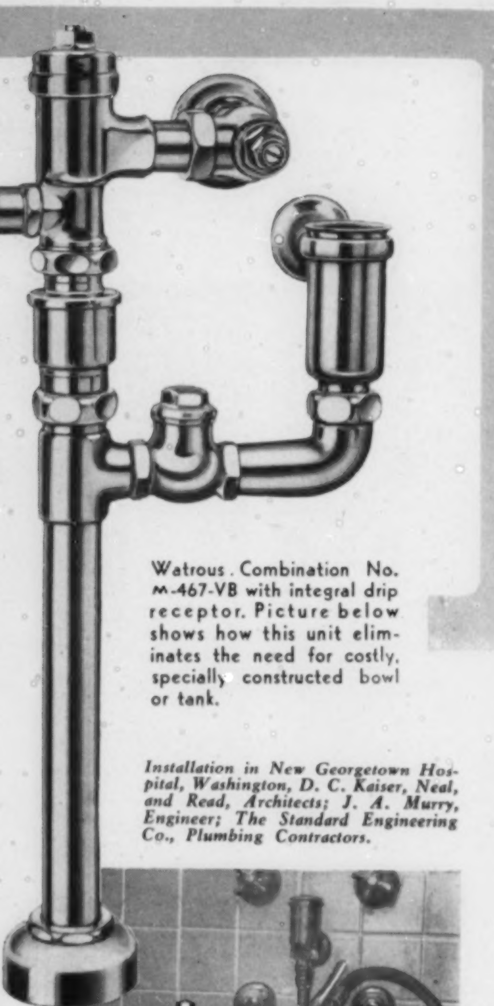
NEW development for hospitals

. . . Watrous Flush Valves with Integral Drip Receptor



Watrous. Combination No. M-467-VB with integral drip receptor. Picture below shows how this unit eliminates the need for costly, specially constructed bowl or tank.

Installation in New Georgetown Hospital, Washington, D. C. Kaiser, Neal, and Read, Architects; J. A. Murry, Engineer; The Standard Engineering Co., Plumbing Contractors.

In hospitals, the use of special fittings to clean bed pans presents the problem of drippings every time the fitting is used.

Here is a simple common-sense answer now offered by Watrous. It consists of a drip receptor mounted as an integral part of the flush valve. The cleaning nozzle is simply placed in this holder after use, and any accumulated drippings flow through a check valve into the flush connection and down into the bowl.

The use of this new Watrous combination eliminates the expense of specially constructed bowls or tanks, and keeps the fittings and hose up out of the way. It is thoroughly protected against any spilling and back-siphonage, and can be arranged for any height above the bowl.

The flush valve itself, of course, offers all those basic Watrous superiorities—self-cleansing by-pass, water-saver adjustment, self-tightening handle packing, single-step-servicing, and, at slight additional cost, screenless silent-action.

Keep this in mind for whatever flush valve needs you may have — Watrous means maximum convenience and economy.

THE IMPERIAL BRASS MANUFACTURING COMPANY
1240 W. Harrison St., Chicago 7, Ill.

For complete information on Watrous Flush Valves see Sweets' Catalog or write for Catalog No. 448-A. Also ask for Bulletin No. 447 giving a summary of "Architects' Views on Flush Valve Applications."

Watrous
FLUSH VALVES

. . . Survey shows 7 out of 8 Architects Prefer Adjustable Flush Valves

Watrous Adjustable Flush Valves

BOTH DIAPHRAGM AND PISTON TYPES

THE RECORD REPORTS

Housing Problems Claim Congressional Attention Funds Sought for New Building Industry Advisory Board • Materials Outlook for 1948 Encouraging

The current session of Congress plans a thorough airing of public housing policy. Chairman Jesse P. Wolcott, of the House Banking and Currency Committee, under whose jurisdiction housing legislation comes, wants to determine first of all whether slum clearance and public housing generally are primary responsibilities of the federal government or of the states.

Once the basic policy is established, he says, writing of legislation will be routine. If the obligation is federal, Congress has only to determine how much money to appropriate each year; if the obligation falls on the states, it needs simply to fix the amounts of grants-in-aid by the federal government and the standards for expenditure.

To use Chairman Wolcott's own words: "We will not make the mistake that has been made in years gone by in discussing this problem. We will not set up the machinery and then build a policy around it. We will establish the policy once and for all and then provide for the machinery by which to carry out that policy. This policy will be formulated and this bill written in the House Banking and Currency Committee after full and complete hearings."

Other housing issues also will be tackled during the current session. Among these is the extension of rent control, authority for which expires March 1. President Truman's request for strengthening the controls, as well as extending them, gives rise to possible modification of the present enactment, but whether or not this is done legislative leaders anticipate that extension for a definite period will get a Congressional O.K.

More Title VI Funds Sought

Because of accelerated use, Title VI mortgage insurance funds ran out in November and the Special Session of Congress was called on to move swiftly to provide an additional $1,000,000,000, raising the total to $5,200,000,000. However, it sought to qualify the basing of insurance upon estimates rather than actual cost since, in some instances, the insurance has represented more than 90 per cent of actual costs. Under the language used by the Senate Banking and Currency Committee, for instance, the Federal Housing Commissioner was instructed to "use every feasible means to assure that such estimates will approximate as closely as possible the actual costs of efficient building operations."

Congress found that about 30 per cent of new permanent private housing is being financed under Title VI insurance and that from January, 1947, through mid-November applications covered 150,700 units of rental housing to a total of more than $1 billion.

Pointedly, the lawmakers, in view of the President's price control program, discussed the inflationary aspects of this credit but felt that to avoid an "unanticipated, abrupt termination of operations" with consequent dislocation to home building, a decision on this aspect should come later.

Joint Committee Findings Studied

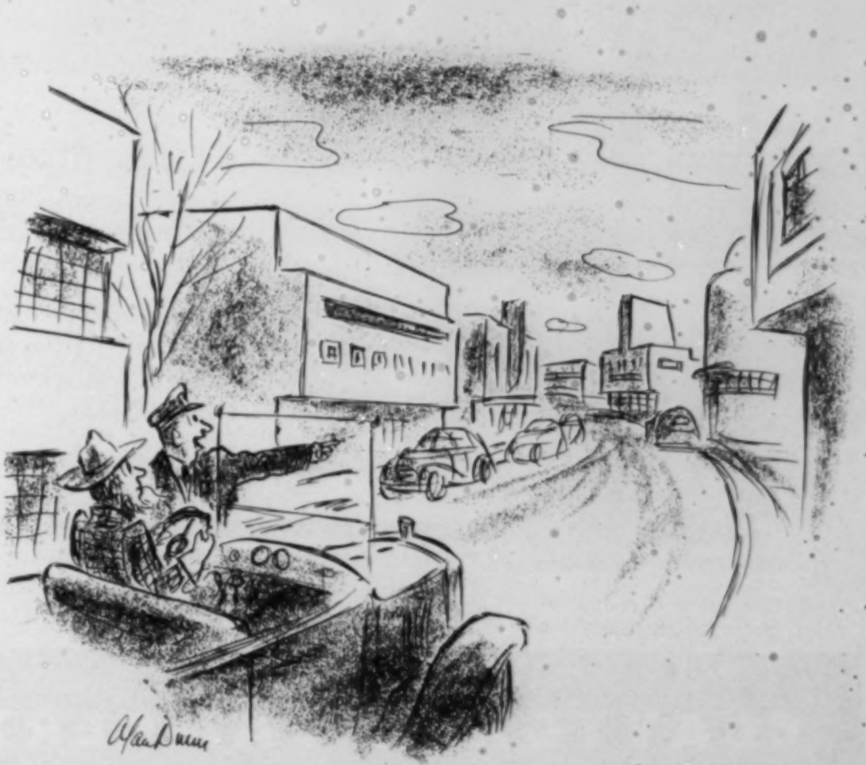
On the housing schedule at the Capitol of course, also are the findings of the Joint Committee on Housing authorized last summer.

Chairman Gamble in a progress report to Committee members in December touched on a wide range of topics as a result of field hearings. Citing the estimated 860,000 "starts" in 1947, he said this figure probably would have to be increased 50 per cent or more for a minimum of four or five years, particularly in the multiple-unit rental field. He stressed the need for increase in on-site labor productivity and pointed to cooperative efforts by labor groups to achieve this.

On prices and shortages of materials, Representative Gamble pointed out that in the case of soil pipe, the national export policy is involved. Continued pig iron exports cut down the supply available for pipe. As to nails, he said, the hearings revealed widespread black markets, drainage through exports, and confusion in War Assets Administration policies. Both nails and gypsum products production is expected to be upped further in 1948. Meanwhile Senator Flanders called a meeting of nail manufacturers to consider means for "getting nails into proper channels of distribution." As to heating, piping and plumbing fixture prices and supplies, Mr. Gamble suggested a thorough investigation.

Among his comments on lumber: "It may be necessary to examine our entire lumber export checking machinery. It may be desirable — in the public interest — to look further into the profits of lumber manufacturers and also to establish to the Committee's satisfaction that a retailer's service is necessary to mass

(*Continued on page 10*)



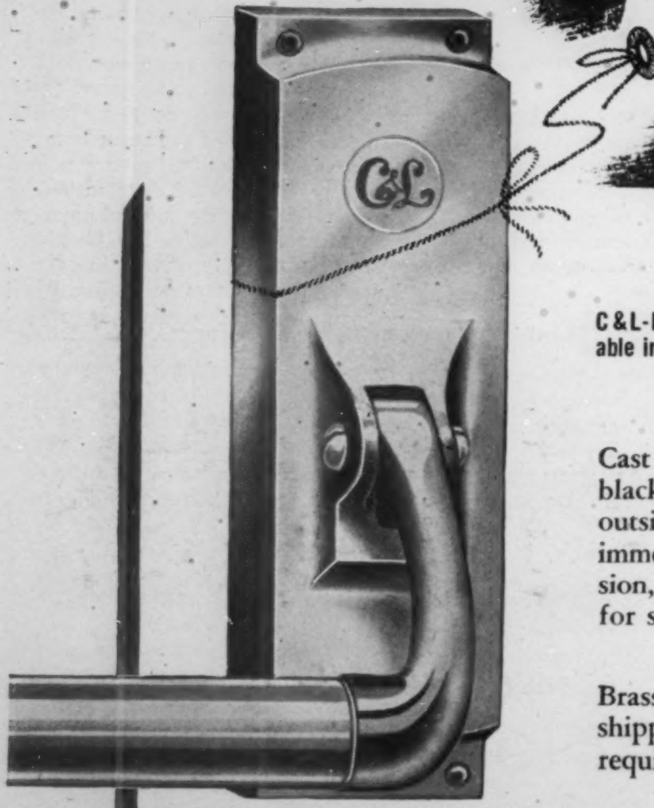
"No, no — there's the hospital; this is the school, that's the theater — then comes the shopping center — next to it the church — then comes the bus terminal — "

— Drawn for the RECORD *by Alan Dunn*

C&L
TRADE MARK

MONARCH
PANIC EXIT DEVICES

IMMEDIATE DELIVERY!



C&L-Monarch panic devices are now available in brass and cast iron.

Cast iron devices, while painted black, have working parts and outside trim of brass. They are immediately available to dimension, or shipped knocked down for stocking.

Brass devices — standard sizes, shipped at once. Special sizes require make up time.

The C&L-Monarch panic exit device operates with only a slight pressure, yet gives complete security from the outside. Available in mortise, rim and vertical rod types. Matched design allows uniform building installations.

Send for illustrated circular and ordering information.

CLAYTON & LAMBERT MFG. CO.
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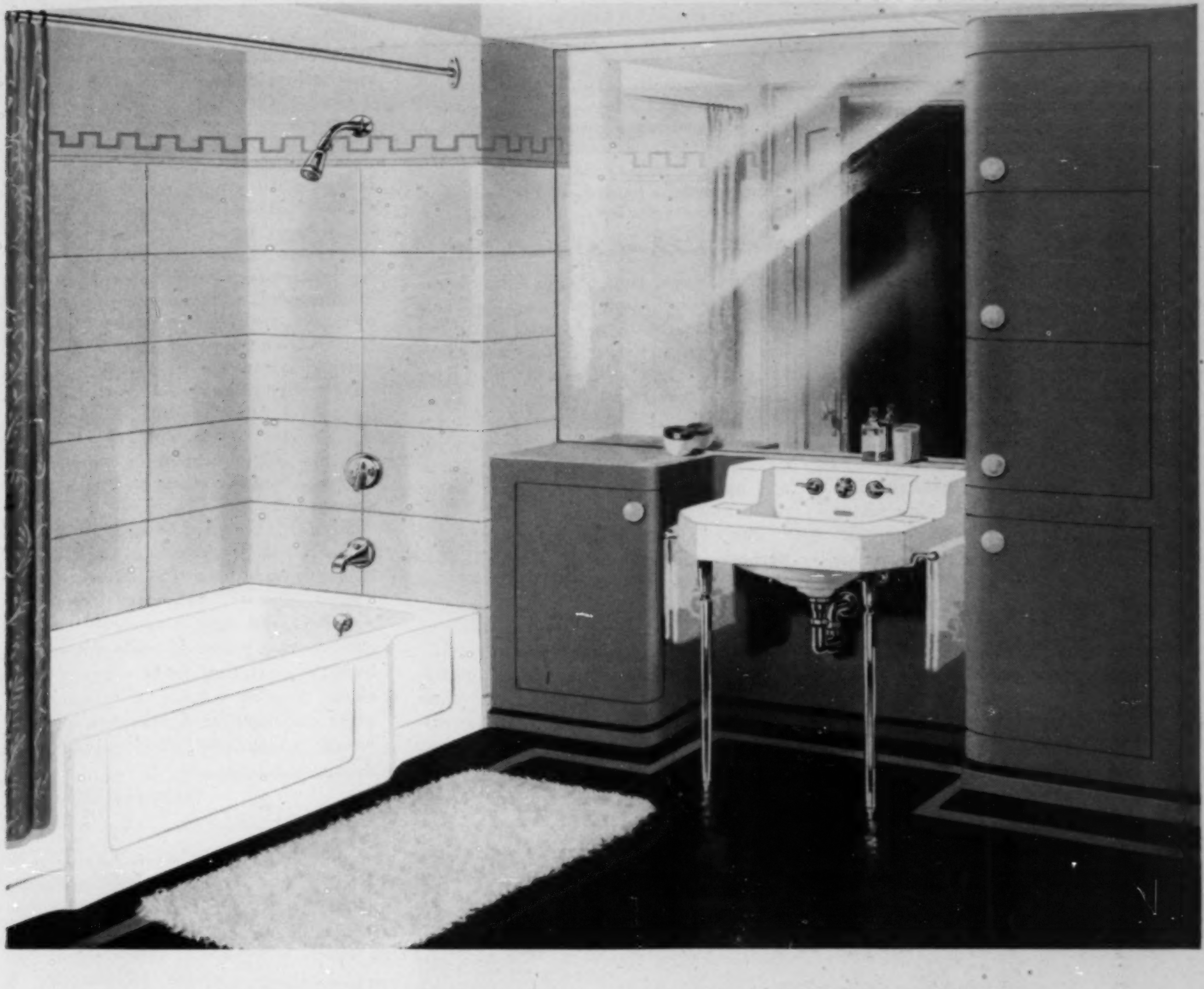


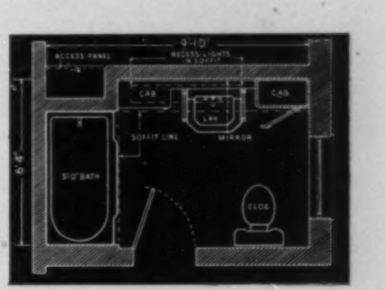
Create confidence with the *recognized quality* of KOHLER BATHROOM FIXTURES

CUSTOMERS are easy to satisfy and to sell when you show them they are getting genuine Kohler quality, and explain the sanitary protection and long serviceability that first quality fixtures mean.

The bathroom above shows a convenient, practical way to arrange Kohler fixtures, with pleasing effect and ample, though compact, storage space.

The Gramercy vitreous china lavatory, with its roomy shelf has a glass-hard, lustrous, easy-to-clean surface. The Cosmopolitan Bench Bath is of non-flexing cast iron, time-tested base for the heavy coat of lustrous pure white Kohler enamel. It is equipped with the efficient Triton Shower Mixer. The quiet, smooth-working Wellworth closet completes the matched set. All fittings are of durable chromium plated brass, built to the Kohler high standards of quality, which is now a 75-year-old tradition.

Kohler Co., Dept. 12-B, Kohler, Wisconsin.



The Kohler fixtures in this floor plan are conveniently arranged, yet the compact space allows for a large mirror over the lavatory, and two attractively designed cabinets for storage of linens and bathroom supplies.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS construction of housing, particularly where some manufacturers own or control their retail outlets. We are personally convinced that the price of lumber can be reduced."

On building codes: "Local building codes, municipal ordinances, and certain state laws, unquestionably constitute the 'impersonal culprits' in the housing shortage. Our investigations reveal that these archaic statutes or regulations, which should be everybody's business, too often have been only the 'business' of some materials manufacturers, and some local labor unions. It should be said to the great credit of some of the unions that they are moving far more quickly than some of the manufacturers to remove from themselves the possible stigma of obstruction. The Committee has made a fair start by encouraging the immediate substitution of performance codes for specification codes."

Representative Gamble noted the long-time "deadly effect" of competition by cheap federal loans, insured loans and federal grants on private capital and individual enterprise in the construction industry. He advised of abuses of public housing in some cities and cited "boisterous" Communist advocacy of public housing. He emphasized the need for inducing private capital into housing and mentioned among possible inducements: accelerated rate of depreciation, abatement of corporate income taxes up to 2 or 3 per cent, yield insurance above tax abatement figures, and provision of land and utilities by municipalities.

Anti-Inflation vs. Housing?

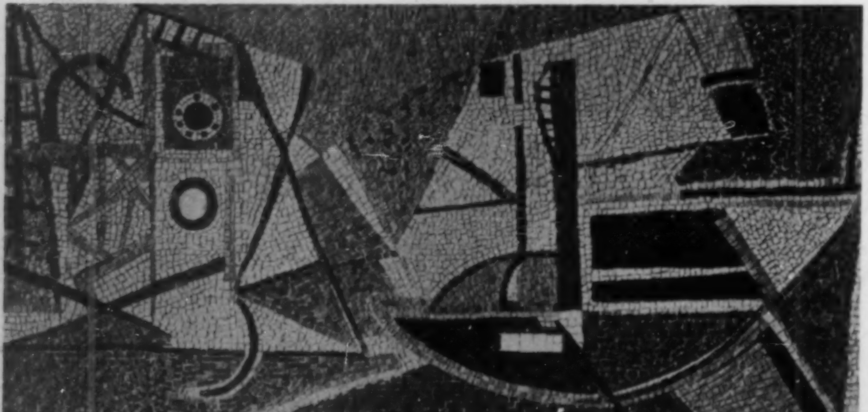
Besides rent control, the Administration's anti-inflation program, officials are finding, ramifies broadly into the field of construction. Presumably, as little hobble as possible will be placed on housing. Nevertheless, some dislocation may be forced by allocation of transportation facilities, by allocation and inventory control of scarce commodities, and by possible price ceilings on scarce products.

There is no official concern, apparently, that the moves to curb inflation will pare down residential construction during 1948. The Commerce Department's Construction Division in estimates which followed the President's message to the Special Session, anticipates a 20 per cent gain in dollar volume of new construction over 1947 with private residential building up 25 per cent. Increases in commercial building, CD calculates, will be largely offset by an industrial construction drop; public utility outlays are expected to rise. HHFA Chief Foley sees possibility of a new national record for housing this year.

On the other hand, F. W. Dodge Corp. estimates indicate quite moderate increases in 1948 construction volume. In discussing this before the Construction Industry Advisory Council at the U.S. Chamber of Commerce recently, Thomas S. Holden, president, pointed to the carry-over of unfinished projects and the consequent demand on numerous key materials and equipment items. The upward spurt in housing starts beginning last July brought shortages in some materials, and the lack of freight cars adds to the shortages in local markets, he advised. "It seems probable," Mr. Holden told the Council, "that the current upward movement in contract letting and housing starts will be checked sometime in 1948."

John L. Haynes, of the Commerce Department, it should be pointed out, makes clear that the Department's figures assume no serious economic recession and only a moderate rise in construction costs. If costs get out of hand, he adds, they could contribute to a sharp drop in volume of housing and other construction. A recession, he feels, would particularly affect private residential building.

(Continued on page 14)



Brilliantly-hued mosaic panel by 16-year-old Renato Gregorini is one of approximately 150 examples of modern Italian art shown at the House of Italian Handicrafts, New York

EXHIBITS OF INTEREST

Late November and early December brought to New York and vicinity three exhibitions of unusual interest. Foremost among them was the showing of rare French tapestries on view at the Metropolitan Museum of Art through February. About half of the 200 pieces brought from France for the exhibition represent work done during the 14th to 16th Centuries, including 24 of the famous Apocalypse series owned by the Museum of Tapestries at Angers. Also shown are examples of work from the looms of Gobelins and Beauvais of the 17th and 18th Centuries, and designs by present-day artists such as Matisse, Saint-Saens and others.

Forty of Italy's most prominent sculptors, painters, architects and designers are represented in the "Living Crafts by Forty Italian Artists" exhibition at the House of Italian Handicrafts, New York City. Comprising about 150 pieces in ceramics, glass, stained glass, mosaics, bronze, silver, wood and other media, the exhibition includes the work of two architects: a large ebony mirror with brass inlay and a marble table by Fabrizio Clerici; and two straw bottomed chairs by Giovanni Michelucci.

Third of the group of new exhibitions is "Painting Towards Architecture," a collection of painting and sculpture assembled by the Miller Company of Meriden, Conn., to illustrate "the kind of abstract art which already has had a

(Continued on page 12)

Another exhibit at the House of Italian Handicrafts: highly glazed turquoise blue ceramic altar piece by Mirko Basadella

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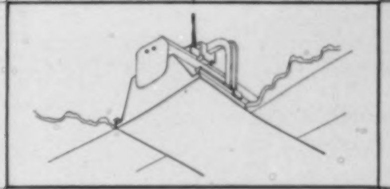

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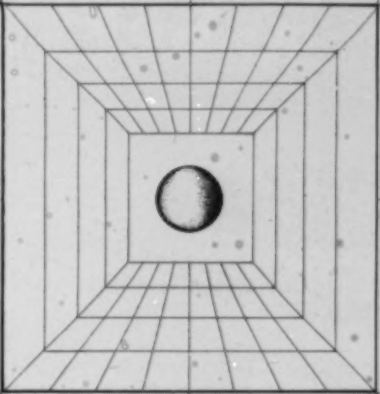

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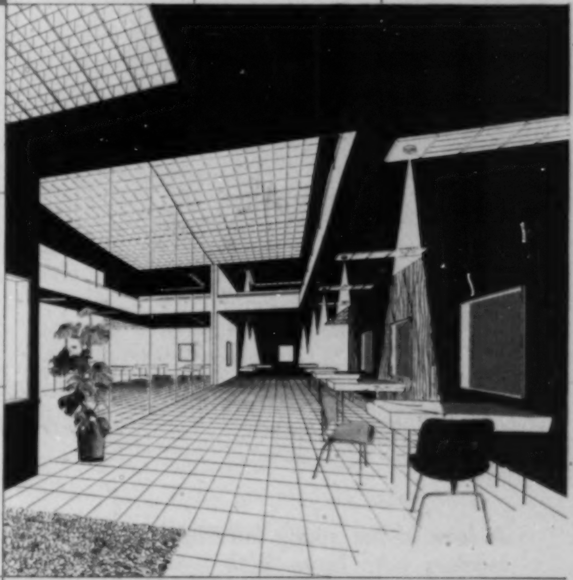

jewelry store—architect: serge chermayeff, chicago

Chermayeff.

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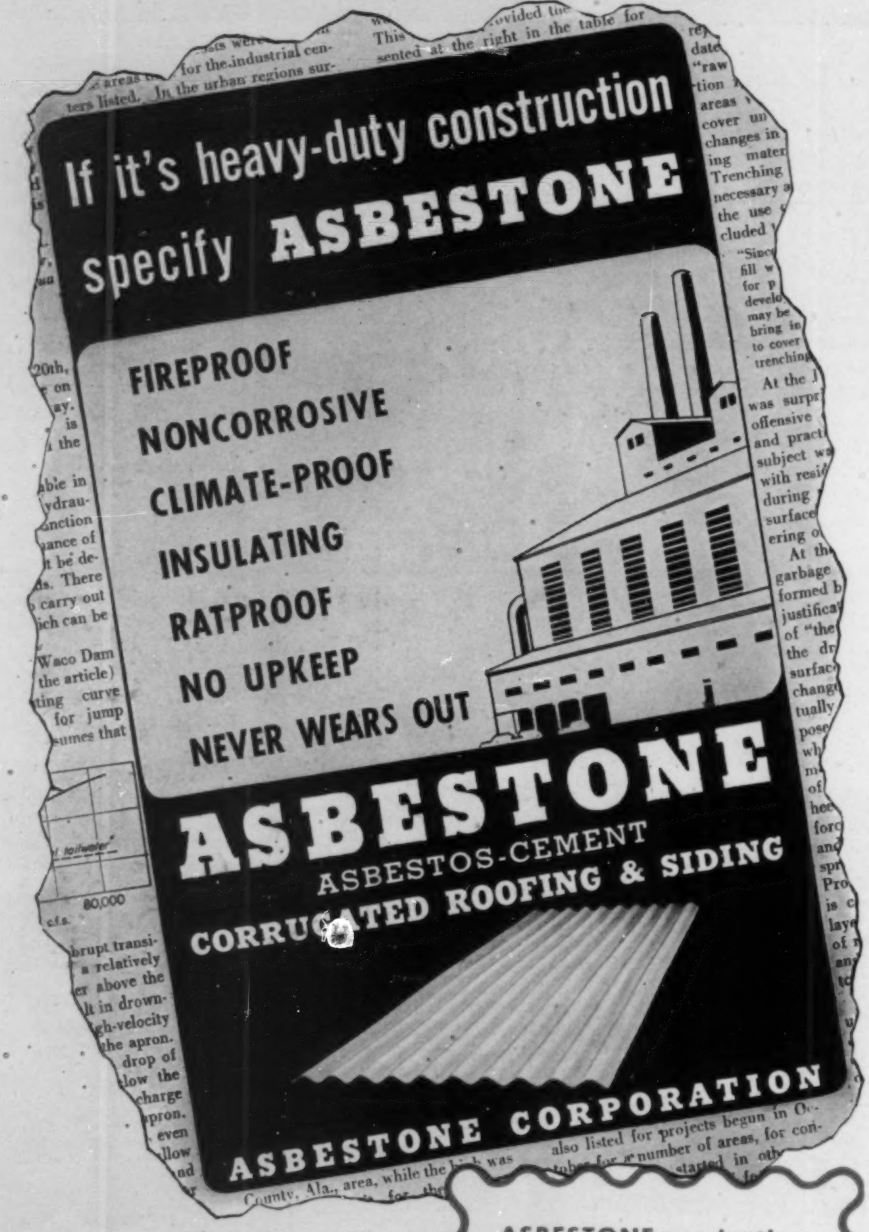
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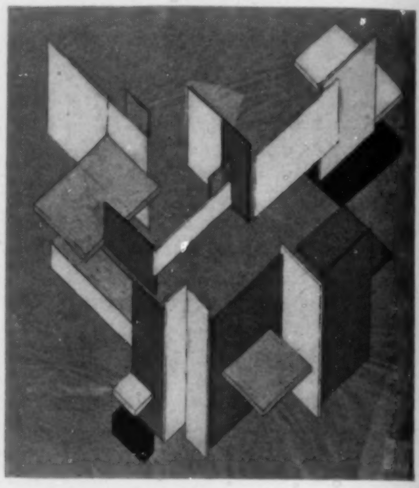
THE RECORD REPORTS

(*Continued from page 10*)

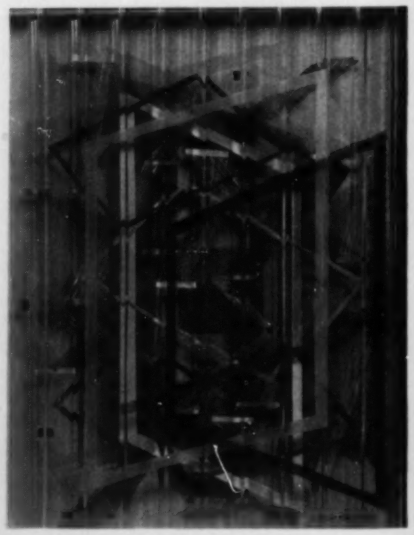


"Space-Time Construction No. 3," gouache by Theo van Doesburg; Miller Co. Collection

historical influence on modern architecture, and contemporary work which perhaps has something to offer to the contemporary architect." First showing of the exhibition was at the Wadsworth Atheneum, Hartford, Conn., in December; later showings are scheduled for Minneapolis, Akron, Baltimore, Milwaukee, and the West Coast.

Included in the Miller Co. Collection are paintings by Picasso, Braque and Gris, Kandinsky, van Doesburg, Stuart Davis, Paul Klee, Mondrian, Georgia O'Keefe, and others; and sculpture by Hans Arp, Jacques Lipchitz and Jose de Rivera among others. Of particular interest is the van Doesburg gouache (see photo above) which is said to have influenced the work of Bauhaus architects Gropius, Oud and Mies van der Rohe.

"Transfluent Lines," two-plane painting by I. Rice Pereira, in the Miller Collection



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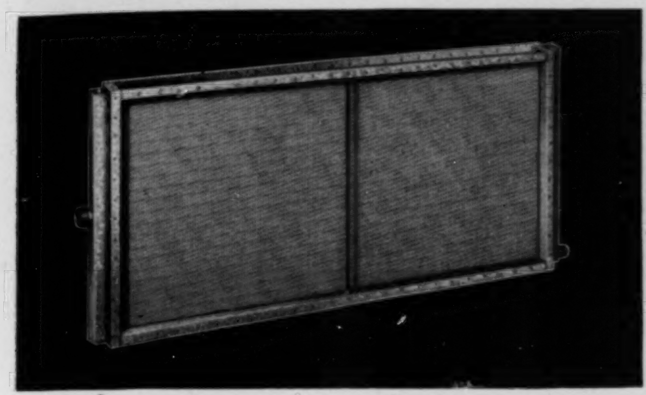

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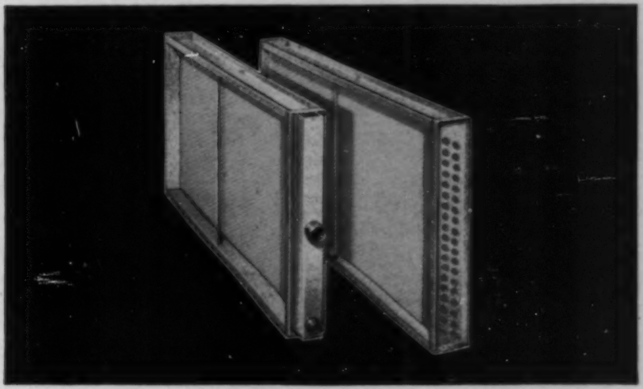

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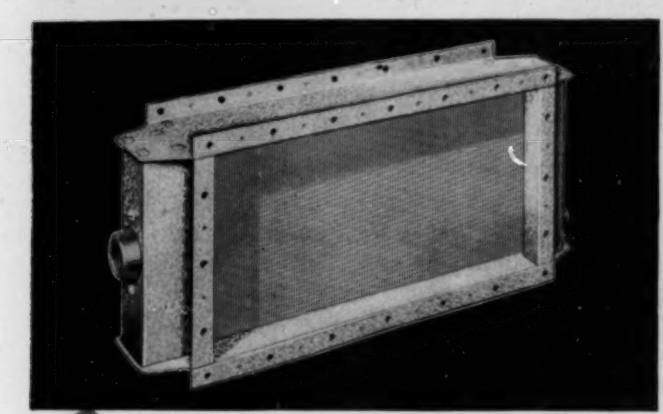

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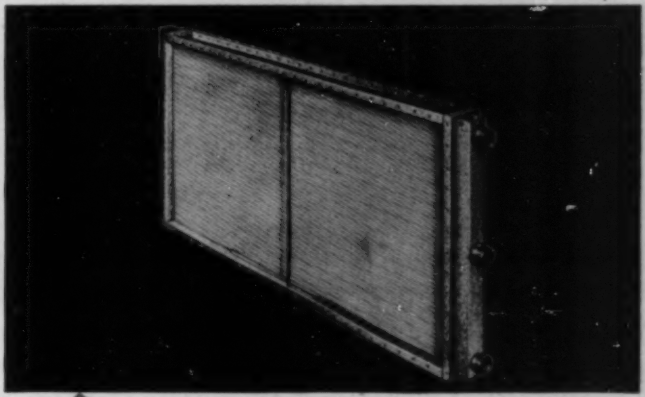

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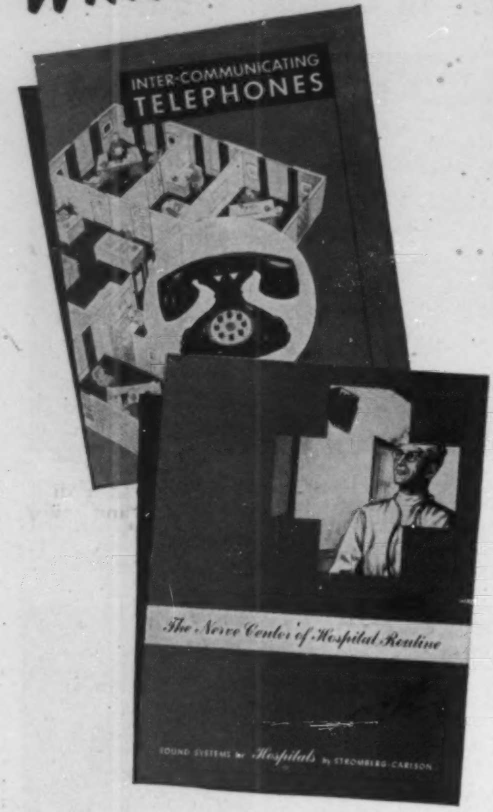
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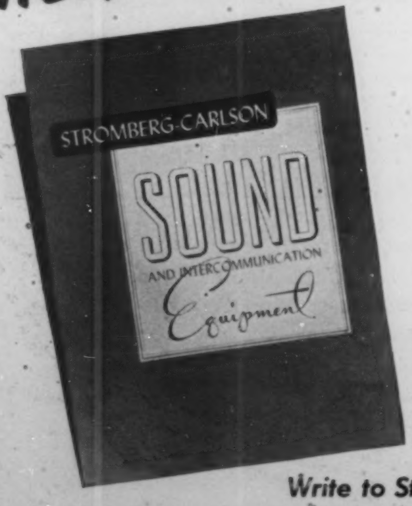

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THE RECORD REPORTS

(*Continued from page 10*)

The steep climb in building activity brought last September and October starts to nearly $2\frac{1}{3}$ times the number begun in January. These findings by the Bureau of Labor Statistics brought official assumption of 860,000 starts in 1947, making it the best home building year since 1925. The number of homes completed in the first 10 months came to 658,100 — 50 per cent more than during the entire previous year. FHA announced that more dwelling units were financed and built under its program in October than in any other month since its establishment in 1934. Total new construction in the first 11 months of 1947 was estimated by the Commerce Department at $11.6 billion — 29 per cent above January-November, 1946.

The lumber market, for one, showed the effect of the summer and fall building "boom." Supplies fell below demand, and lumber prices, which had shown signs of stabilizing, again climbed. By the end of September, reported the Lumber Survey Committee, they were at a record high. Average wholesale prices of building materials reached an all-time high in August, despite declines in May and June, BLS advised. They stood at 179.7 per cent of the 1926 level. Increases ranged from 1 per cent for brick and tile to almost 10 per cent for structural steel.

Mortgage Financing High

Meanwhile, the Federal Home Loan Bank Board, summing up for the year ending September 30, relates that construction loans through federal savings and loan associations ran 41 per cent above the preceding year and stood at the highest point since the associations were first authorized in the early Thirties. At the same time the Board estimated that non-farm real estate financing in September reached almost $1,023,000,000, the highest total of mortgage financing for any month since figures were first assembled by the Board in 1939. In the first nine months of 1947 such mortgages reached $8.3 billion, an 8 per cent rise over January-September in 1946 and a record for any similar period.

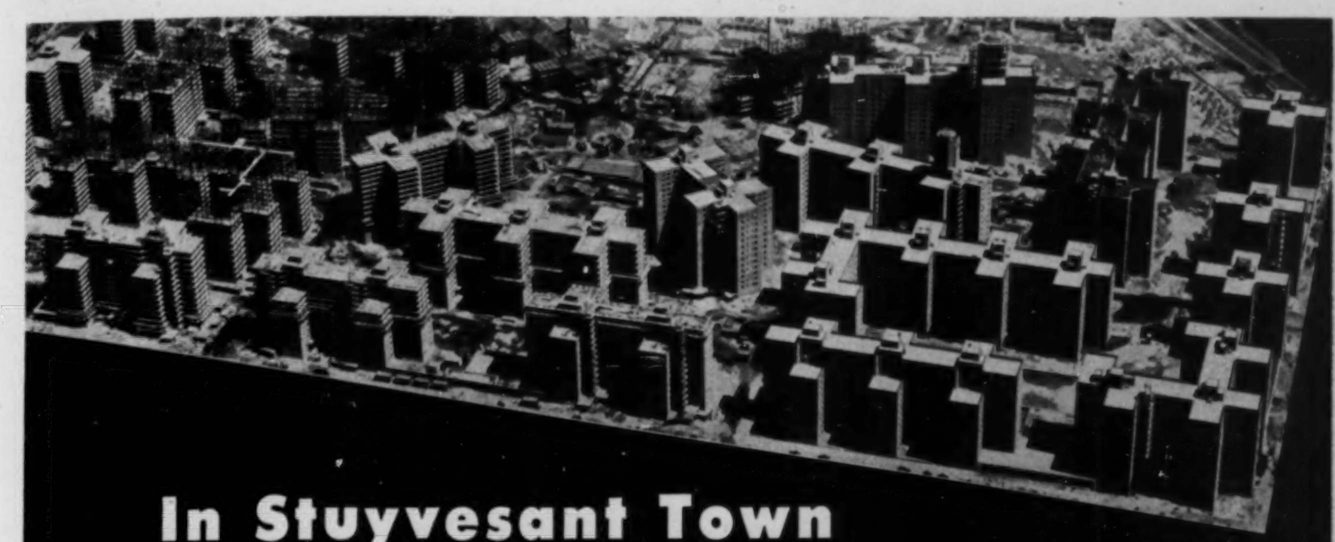
The Board, incidentally, has now issued rules by which federally-chartered savings and loan associations may make loans up to $1500 for repairs and alterations without first mortgage security.

Building Research Demanded

Necessity for building research continues in the limelight. The Construction Advisory Council of the U.S.

(*Continued on page 16*)

STUYVESANT TOWN, *Manhattan, N. Y.*
A development of the Metropolitan Life Insurance Co. to provide apartments for 8,755 families. *Architects*: Board of Design, Gilmore D. Clarke, Chairman; Irwin Clavan, Architect. *General Contractors*: Starrett Bros. & Eken; *Flooring Contractor*: John T. Swanson Co.



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THE RECORD REPORTS

(Continued from page 14)

Chamber at its November meeting dwelt on the subject and set up a Research Activities Committee to serve as a liaison with the newly established Building Research Advisory Board of the National Research Council. The Committee, headed by Raymond J. Ashton, former president of the American Institute of Architects, is now working with the industry to underwrite the BRAB with $100,000 a year for a period of five years. To participate are architects and engineers, contractors and builders, home-builders, distributors (wholesale and retail), manufacturers, mortgage finance men, and property owners and managers.

Aim of the BRAB is to correlate factual material on planning and technological advance, to disseminate information on current research and prevent needless duplication, and to develop research in neglected areas. Heading the Board is Dr. Frank B. Jewett, recently president of the National Academy of Sciences. The 23 members under him have been chosen by the National Research Council for their interests or accomplishments in building research in fields associated with construction. There will be a research staff.

Cost Reduction Sought

In his recent message to the National Association of Housing Officials, President Truman emphasized not only the need for slum clearance and "decent housing" for low-income families but also the stimulation of "research toward better housing at lower cost."

One means of cost reduction, the industry engineered house, has been detailed in a book, *Here's a Better Way to Build*, in which 36 national organizations including the Producers' Council and the National Retail Lumber Dealers Association have collaborated. Over 5000 such homes are expected to be built this year.

The Federal Housing and Home Finance Agency, too, has issued an illustrated booklet, *Planning the Expansible House*, containing suggestions for veterans and families needing adequate low-cost housing in the current high-cost market. The booklet presents six schemes for "houses that grow." Each of the basic units contains a living room, bedroom, dining space, kitchen, adequate closets and storage space, together with heating equipment, hot water and laundry facilities. Each is planned for the addition of bedrooms and other rooms at minimum costs. Developed by HHFA, the plans can be adopted to government requirements on home mortgages.

(Continued on page 126)

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TRUMBULL ELECTRIC

CONSTRUCTION COST INDEXES — Labor and Materials

United States average 1926—1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corporation, from data compiled by E. H. Boeckh & Associates, Inc.

	NEW YORK					ATLANTA				
	Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings		Residential		Apts., Hotels, Office Bldgs.	Commercial and Factory Buildings	
Period	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel	Brick	Frame	Brick and Concr.	Brick and Concr.	Brick and Steel
1920	136.1	136.9	123.3	123.6	122.6	122.8	122.9	108.6	109.8	105.7
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5	83.4
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5	97.5
1941	134.5	135.1	135.1	137.2	134.5	97.5	96.1	99.9	101.4	100.8
1942	139.1	140.7	137.9	139.3	137.1	102.8	102.5	104.4	104.9	105.1
1943	142.5	144.5	140.2	141.7	139.0	109.2	109.8	108.5	108.1	108.7
1944	153.1	154.3	149.6	152.6	149.6	123.2	124.5	117.3	117.2	118.2
1945	160.5	161.7	156.3	158.0	155.4	132.1	133.9	123.2	122.8	123.3
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
July 1947	223.4	225.0	211.2	212.5	206.6	184.0	187.9	160.3	159.6	158.8
Aug. 1947	225.5	227.1	215.5	214.9	209.4	185.4	189.3	162.4	161.2	161.4
Sept. 1947	225.9	227.5	216.4	216.0	210.4	185.6	189.5	164.1	162.3	165.0
Oct. 1947	228.7	231.0	218.5	217.4	213.8	186.9	191.0	165.0	163.0	165.8
	% increase over 1939					% increase over 1939				
Oct. 1947	**85.1**	**88.7**	**67.1**	**62.9**	**64.3**	**116.5**	**129.8**	**73.5**	**67.3**	**75.1**

	ST. LOUIS					SAN FRANCISCO				
1920	118.1	121.1	112.1	110.7	113.1	108.8	107.5	115.2	115.1	122.1
1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1941	118.8	118.0	121.2	121.7	122.2	116.3	112.9	120.5	123.4	124.3
1942	124.5	123.3	126.9	128.6	126.9	123.6	120.1	127.5	129.3	130.8
1943	128.2	126.4	131.2	133.3	130.3	131.3	127.7	133.2	136.6	136.3
1944	138.4	138.4	135.7	136.7	136.6	139.4	137.1	139.4	142.0	142.4
1945	152.8	152.3	146.2	148.5	145.6	146.2	144.3	144.5	146.8	147.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
July 1947	205.6	207.2	187.8	187.8	187.5	195.1	194.0	186.6	190.6	188.0
Aug. 1947	207.0	208.6	189.9	189.4	190.1	196.7	195.6	188.9	192.4	190.8
Sept. 1947	207.5	209.0	191.2	190.8	192.3	198.4	196.3	192.5	197.4	195.7
Oct. 1947	210.7	213.0	192.2	191.5	193.4	207.1	206.2	195.4	199.6	198.9
	% increase over 1939					% increase over 1939				
Oct. 1947	**91.1**	**99.1**	**61.9**	**59.8**	**62.5**	**96.1**	**107.6**	**66.4**	**63.7**	**70.7**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).
Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

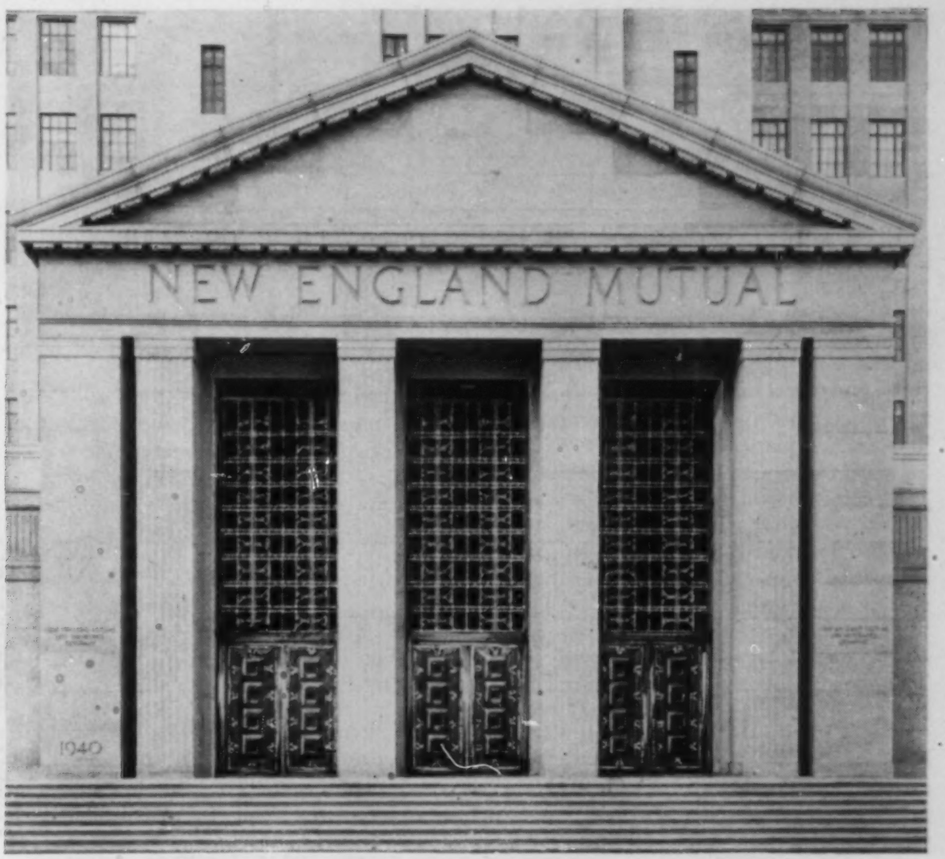
Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.

Bronze doors and grille work provide simplicity and elegance. Extruded shapes are employed for door trim and frames. Grilles are formed from special shapes, tubes and bars.

Cram and Ferguson, Architects
Turner Construction Co., General Contractor



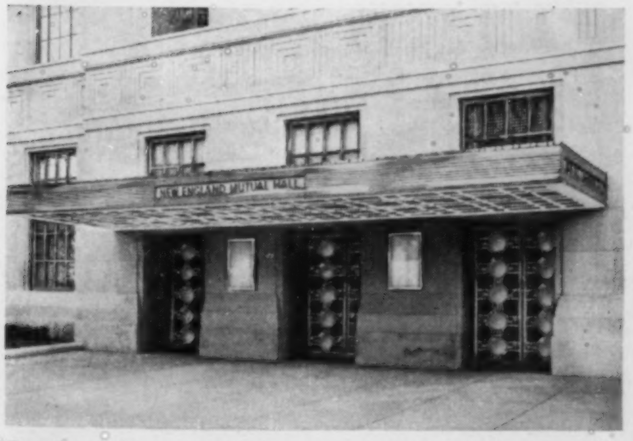
Dignity, Performance, Utility indicate BRONZE

In the strikingly handsome home office building of the New England Mutual Life Insurance Company of Boston, the architects and builders have made fullest use of bronze for its utilitarian advantages, its reduction in maintenance cost as well as its impressive beauty that is enhanced as time goes on.

Main entrance doors and grille work, the auditorium marquee, ornamental work in general and window frames throughout the building were fabricated by the General Bronze Corporation from Anaconda Architectural Bronze.

Added to the obvious advantages of this rustless, traditionally beautiful metal, is long run economy over less durable metals. This is exemplified particularly in windows which require little maintenance, operate smoothly, will never bind or cause panes to fracture through rust accumulation in the channels.

4717



The face of the marquee is formed of sheet bronze, the glass lighting panels are supported in a frame of extruded shapes. Directory boards are also framed by extruded shapes.

ANACONDA
from mine to consumer

Anaconda
ARCHITECTURAL BRONZE

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REQUIRED READING

HOSPITALS

Hospital Care in the United States. By the Commission on Hospital Care. New York 22 (41 E. 57th St.), The Commonwealth Fund, 1947. 6 by 9 in. xxiv+632 pp. illus. $4.50.

Architects specializing in or even occasionally doing hospital work will find in this study much detailed background material not elsewhere available. For this is the report of two years of work by the Commission on Hospital Care, and in effect is a picture of the hospital situation throughout the country today.

Of chief interest to the architect are the chapters on the functions of the general hospital and the facilities required for successful operation. There is no discussion of the actual planning of the hospital, however, and only a brief chapter or two on the types of facility needed. The book is not intended primarily for the architect, but for the hospital administrator; its value to the architect, therefore, lies solely in its ability to increase his understanding and knowledge of the hospital's special problems. The Commission's recommendations are summarized, and much of the data is presented graphically, making the volume an excellent one for the reference shelf.

HOW TO BE AN ARCHITECT

Architectural Practice. By Clinton H. Cowgill, A.I.A., and Ben John Small, A.I.A. New York 18 (330 W. 42nd St.), Reinhold Publishing Corp., 1947. 9 by 12 in. 396 pp. $12.00.

A practicing architect presumably knows all that this book contains, but the chances are more than good that he will read these pages with lively interest and considerable profit just the same. The student and the neophyte, of course, will find the volume made to order for their specific needs.

Messrs. Cowgill and Small have written a textbook which covers every phase of the architect's work from the development of a clientele to the keeping of books. Each chapter has a bibliography for further reading and a list of review questions, so that the book will be a good one for discussion groups and pre-examination review as well as for classroom use. The thoroughness of the coverage is indicated by the inclusion in the section on specification writing of a tabulation of punctuation and proofreaders' marks.

Contract forms and forms of agreement are included (even a typical negotiated agreement between architect and union); there is a detailed section on business principles, with separate chapters on architects' accounts and financing of building projects; another section deals with the legal and professional aspects of architectural practice, others with contract conditions, bonds, mechanic's liens, contract letting and so on.

For the review student there is an excellent section on the certification of architects, with excerpts from the licensing requirements of each state with laws regulating the practice of architecture and a complete New York State examination. A final chapter in the Architectural Practice section describes the activities and membership qualification of the American Institute of Architects.

COMPANY HISTORY

The Metropolitan Life: A Study in Business Growth. By Marquis James. New York 17 (18 E. 48th St.), The Viking Press, 1947. 6 by 9 in. 480 pp. illus. $5.00.

Quite apart from its interest as the biography of a company which has made good, this latest volume by Pulitzer Prize winner Marquis James should attract readers from many different fields and of widely variant opinions. For Mr. James has presented the story of Metropolitan's growth and activities in broad terms, against a background of the history of the country since the company's founding.

Of chief interest to the architect and city planner, of course, will be the chapters describing Metropolitan's ventures into the housing field. These started in 1911 with the erection of a group of seven-room, semi-detached brick and limestone houses in the Mapleton section of Brooklyn, the first mortgages on which were held by Metropolitan. It was not until 1922, when New York State passed a bill making it permissible for life insurance companies to invest a small percentage of their assets in housing, that the company branched out into apartment construction. The first project undertaken was a 2125-apartment development in Queens which was fully rented long before it was completed; the rent was $9 a room. There followed, of course, gigantic Parkchester in the Bronx (12,272 units rented at about $14 a room), and still later Parkfairfax near Washington, D. C., Parklabrea in Los Angeles, and Parkmerced in San Francisco. The most recent additions to the Metropolitan housing group are the now-almost-complete Stuyvesant Town and Peter Cooper Village in lower Manhattan, and the Riverton project in Harlem.

How these various developments came to be built, and how Metropolitan fared with its huge mortgages on the Empire State Building and Rockefeller Center, make absorbing chapters in a book which in its entirety is of considerably more interest than its rather prosaic title might suggest.

MADE TO SELL

Design for Business. By J. Gordon Lippincott. Chicago 2, Ill. (5 N. Wabash Ave.), Paul Theobald, 1947. 8½ by 11 in. 226 pp. illus. $8.00.

Here is industrial design in essence: an applied art, says Mr. Lippincott, "which not only should enhance the beauty of everyday living but should also increase the functional usefulness of the object to which it is applied." What the industrial designer does, and how he does it, is the subject of this book. The book itself, incidentally, has been subjected to Mr. Lippincott's double requirement — it is a handsome volume, and functionally useful in its format.

As one of the country's foremost industrial designers, Mr. Lippincott is well able to discuss such things as style and "combating the anonymity of mass production." Through these pages to illustrate his points are photographs of toasters, automobiles, furniture, radios — a hundred objects in daily use.

HOME FURBISHING

Painting Patterns for Home Decorators. By Ruth Wyeth Spears. New York 16 (114 E. 32nd St.), M. Barrows & Co., Inc., 1947. 8½ by 11 in. 128 pp. illus. $3.50.

Even the unartistic reader should have no trouble following the instructions of Mrs. Spears in this book on brightening up the home with hand-painted furniture and decorations. She has supplied not only the ideas (and there are plenty of them), but traceable patterns and simple directions for mixing paints. The result is a volume which will give a lot of people a lot of fun and a brand new hobby.

TECHNICAL BOOKS

WITH HAMMER AND SAW

Carpentry for the Building Trades. By Elbert A. Lair. New York 18 (330 W. 42nd St.), McGraw-Hill Book Co., Inc., 1947. 6 by 9 in. viii+188 pp. illus. $2.50.

"The aim of this book," explains the author in his preface, "is to provide in text form the essentials of practical carpentry for the building trades; to bring into organized form the fundamental objectives of the construction of the small and medium-sized frame house; and to provide a definite course for high school, technical school, vocational school, apprenticeship, and veterans' apprenticeship classes in carpentry."

This aim Mr. Lair has achieved with considerable success. The volume is nicely thought out from beginning to end, and illustrated liberally with draw-

(Continued on page 30)

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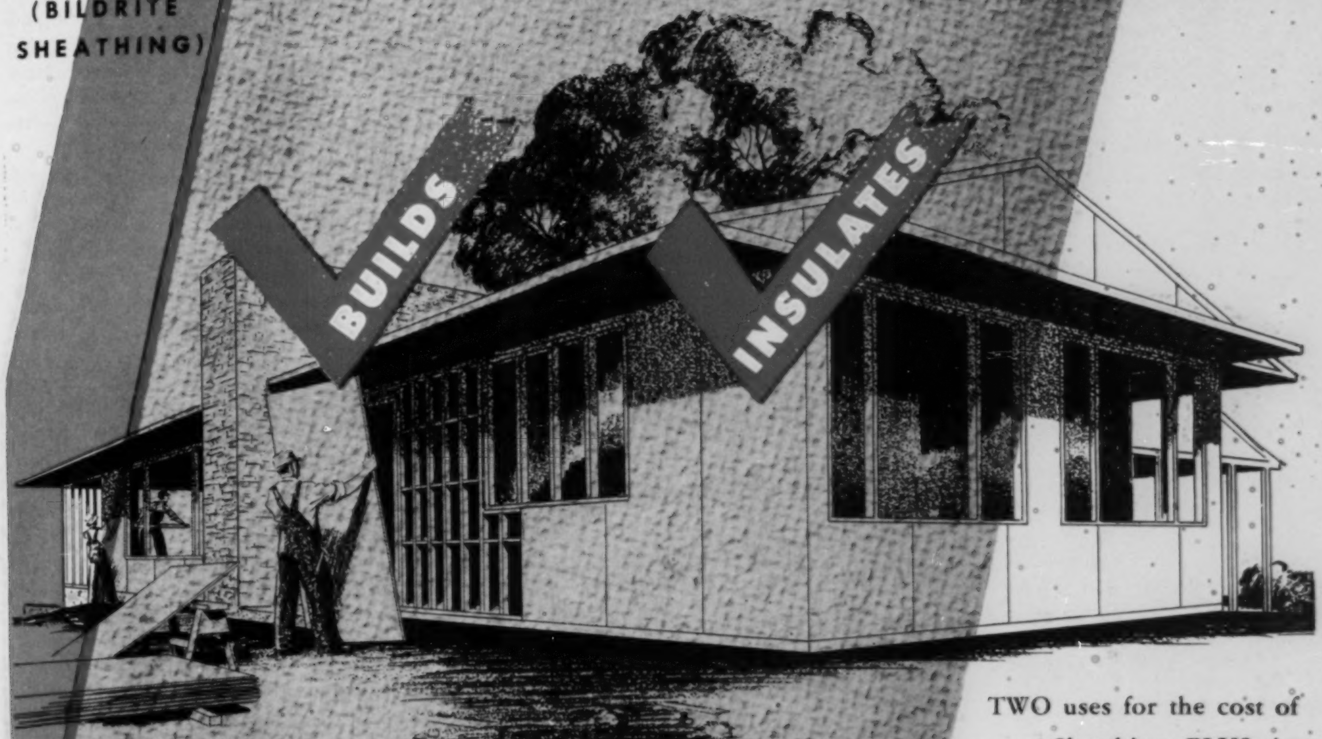
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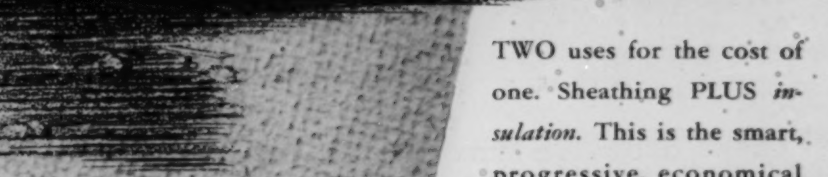
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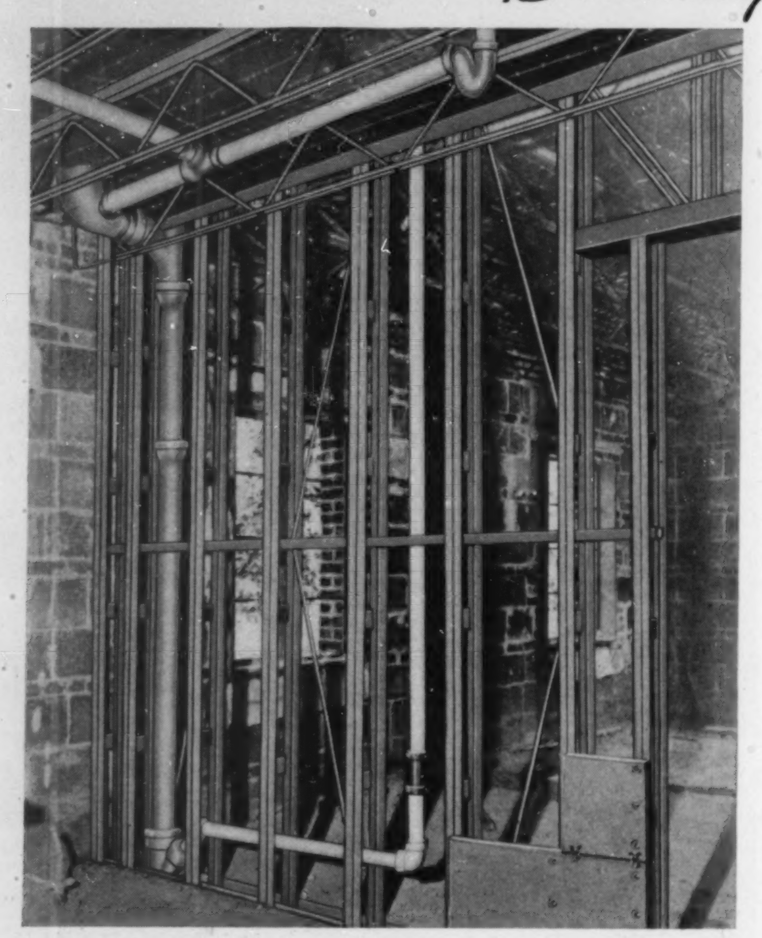

• Shown above is a Macomber Load Bearing Partition Panel as now being supplied for multi-story housing projects. The open design of these sturdy units provides ample space for plumbing and wiring. Openings are framed and wall materials are nailed to V Stud Sections. When used in conjunction with Macomber Bar Joists and light Roof Trusses, an entire building is steel framed in a minimum of time and cost. We offer prompt interpretation of these structural sections for your next project. Literature available. Write.

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REQUIRED READING

(*Continued from page 28*)

ings which are both large enough and simple enough for easy understanding by the student. It should appeal also to the amateur builder and to the hobbyist carpenter, as well as to anyone interested in the building field.

PLYWOOD EXPLAINED

Plywood: What It Is — What It Does. By Louis H. Meyer. New York 18 (330 W. 42nd St.), McGraw-Hill Book Co., Inc., 1947. 6 by 9 in. 250 pp. illus. $3.50.

With plywood becoming more and more popular for all kinds of uses, this manual on the subject will be welcomed by the architect and engineer as well as by the industrial designer and craftsman. It covers, as the preface points out, "the physical properties and end uses of plywood and a number of kindred laminates and sets forth their composition, structural elements, and mechanical characteristics so that the user can specify these products for, and adapt them intelligently to, whatever project he has in hand."

The book starts out with a chapter which describes the general characteristics of plywood, including the methods of cutting, bonding and finishing. There follows a chapter on the unique characteristics of the material — high strength-weight ratio, resistance to splitting, insulating qualities, fire retardance, etc. With this as background, the rest of the book is devoted to the uses made of plywood and to a detailed discussion of the various kinds and grades of plywood available. Especially helpful are the tables of the veneers of fancy woods generally obtainable for custom jobs, and the many properties tables. There is also a glossary of terms in common use in the plywood industry.

NEW EDITION

ARC WELDING

Lessons in Arc Welding. 3rd edition. Cleveland, Ohio, The Lincoln Electric Co., 1947. 5½ by 8½ in. 158 pp. illus. 50 cents.

So complete has been the revision of this third edition of LESSONS IN ARC WELDING that a practically new book has resulted. Including 58 lessons and 228 photographs and illustrations, the volume features a "Questions and Answers" department covering 30 pages.

The text incorporates much new material such as welding with alternate current; new procedures covering large electrodes, with recommendations as to their use; pipe welding; and data on the qualification of welding operators. Also included is a discussion of distortion with recommendations as to its prevention and control.

ARCHITECTURAL

RECORD

HOW MUCH FOR A SET OF HOUSE PLANS?

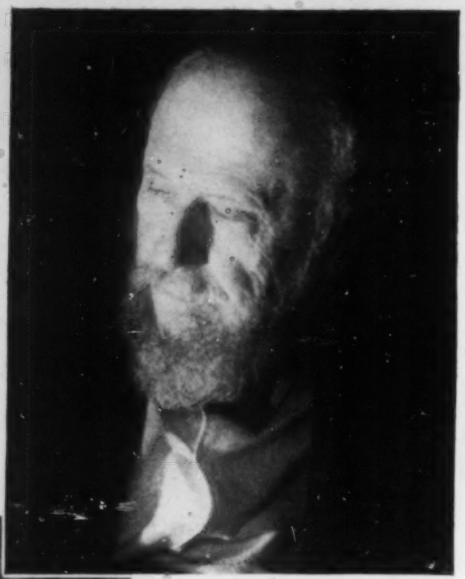
THE current investigations into the high cost of housing and into the iniquities of the so-called "construction industry" are not likely to involve any implied indictments of architects. The architectural fee involved in most suburban low-cost housing developments is usually found to be a negligible item in the overall costs. The smaller developer can usually buy stock plans which he would consider satisfactory at a nominal cost, and these can be used over and over with such variations as the carpenter foreman's ingenuity or imagination may deem advisable.

Even in larger developments of low-cost houses, the fact that a few standard plans and standard details are developed and that merely variations, permutations and combinations of these stock designs are used for 100 or more houses, means that the cost per house again is an almost negligible item. This standardization of plan and design, when intelligently used, makes for a certain harmony of homogeneous design character. That may be a virtue rather than a drawback. This is especially true when the site plan is intelligently and ingeniously designed to eliminate the monotony of gridiron rectangles. This standardization and repetitive use of plans makes the design cost per dwelling unit a practically negligible quantity.

On the other hand, the cost of the design for a custom-built house for an individual owner becomes a real factor in the total cost of the house. It is sometimes hard for the prospective client to understand why a competent architect should charge 8 or 10 per cent of the cost of the house for his services when the owner or his contractor can "buy a set of plans" for $25, $5, or a "house pattern" from certain magazines for a dollar or two. The profession still has the tremendous task of educating the public to a knowledge of what is involved in complete architectural service for the custom-designed house and how much more is involved than the mere "making a set of blueprints." The amount of the architect's time taken by client conferences, determining actual requirements, studying and restudying plan and design, supervising and administering the construction of a house, is rarely appreciated by the prospective owner, nor does he realize that to the architect, his time is money.

The possible reduction in the design cost of the individual house is therefore largely a matter of the reduction of the time involved. Time can be saved and fee reduced only by increased efficiency in the architect's office or reducing the extent or quality of the service rendered. Increased efficiency might include such items as comprehensive questionnaires to determine clients' requirements; improved drafting techniques; greater standardization of the architect's own details; the use of stock materials, sizes, and equipment; simplified specifications; modular design and coordination; and perhaps last but not least, the designer's ability to grasp the requirements and reach the desired design solution without constant restudy or laborious evolution. Let us strive for more efficient service rather than for limited service or "the selling of blueprints."

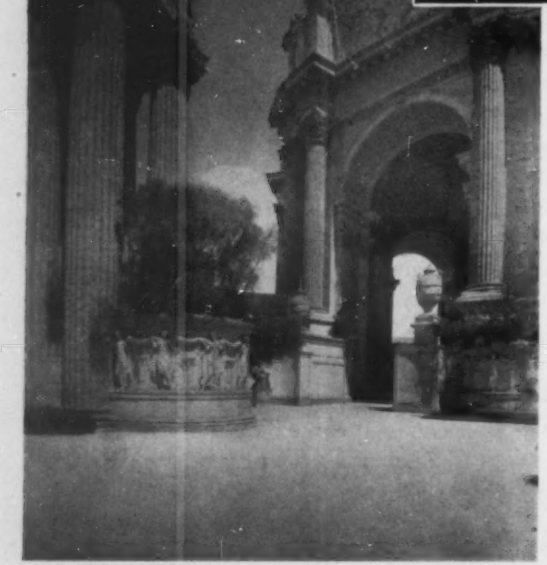
Kenneth K. Stowell
EDITOR



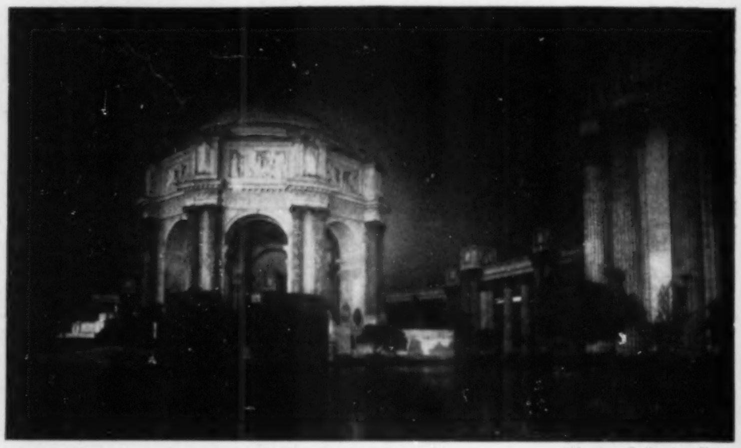
BERNARD RALPH

Notes from a forthcoming book on Maybeck

by Jean Murray Bangs



Worden Collection Photo



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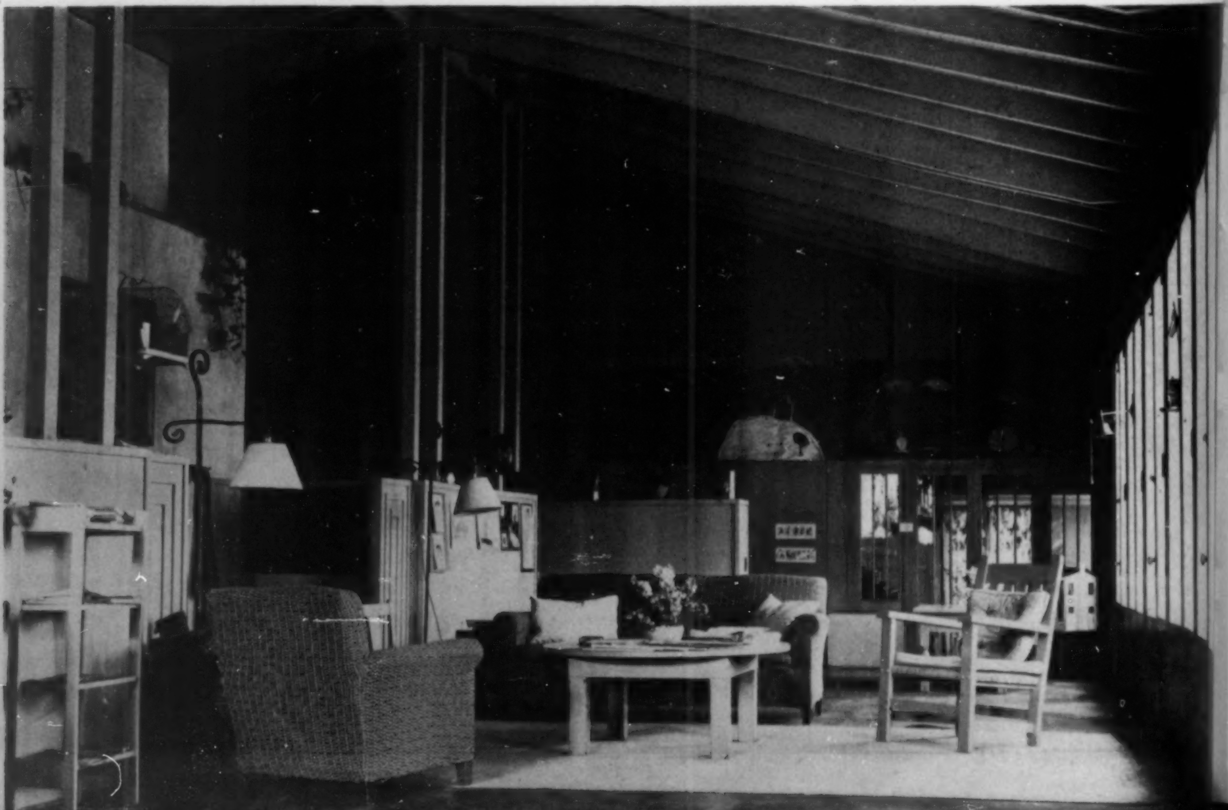
Weston Ph



MAYBECK, ARCHITECT, COMES INTO HIS OWN

With every passing year, awareness deepens that the best contemporary architecture is in a special sense traditional. Whoever considers independently and imagines truly for his own day joins that everlasting tradition of "well building" whose basic values never die. The central tradition is handed from one such independent spirit to another, transcending the accidents of circumstance and time. Never a seeker after quick publicity, Bernard R. Maybeck is today, in his retirement, the liveliest single topic of conversation among architects in his own native region of San Francisco and the Bay. Miss Bangs has been patiently prodding Mr. Maybeck and digging among the obscure records of much of his work. Aided by the University of California and private individuals, she has assembled the first comprehensive record of his contribution

WHERE American life has most truly developed along its peculiar and most characteristic lines — let us say roughly along the Pacific Coast — where in general American mores, as distinguished from those of Europe, are most freely accepted, there is evolving a kind of domestic architecture that is perhaps the most advanced domestic architecture in the world today."

Talbot Hamlin wrote these lines in 1942. They might have been written any time after 1900 for from that time on very significant and beautiful work was done in California. Something of this early work is known, but not all. The gaps in the documentation of American architecture are amazing.

One of the distinguished American architects whose work is still relatively unknown is Bernard Ralph Maybeck. Of course he is not actually unknown. Anyone can read of his achievements in *Who's Who*. He received official recognition in many ways, had a government position, held civic office and founded the department of architecture in one of the state universities. The architectural profession gave him official recognition through the American Institute of Architects. Architects who saw his work gave unofficial recognition in the form of imitation, the sincerest form of flattery.

Most telling of all he received important commissions, of all forms of recognition the most important one. But until his contribution to architecture is generally realized, until he finds a place in architectural history, until the students in architectural schools know his work, until it is available to them as part of their cultural heritage, until his work becomes part of the great tradition of American architecture, it is, in an important sense, unknown.

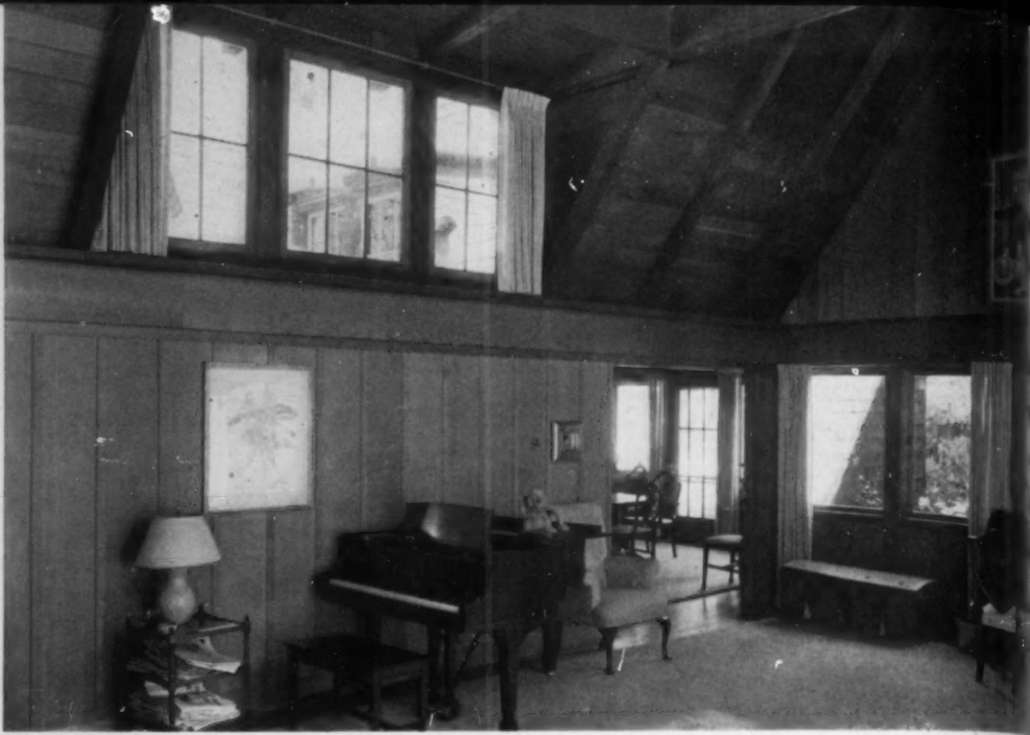
Maybeck was born in New York in 1862. After attending public and private schools in this country he was sent to Paris to finish his education at the École des Beaux Arts, in the atelier of M. André.

After his return to the United States he worked for Carrère & Hastings in New York and H. Page Brown in San Francisco. In 1894 he was appointed Instructor in Drawing at the University of California. Between 1896 and 1898 he was on leave of absence from the university, traveling in Europe, attending the École and acting as Professional Advisor for the International Competition for the Phoebe Apperson Hearst Architectural Plan for the University of California. On his return from Europe in 1898 he was appointed the first Instructor in Architecture at the University of California. This marked the founding of the architectural department there.

His private practice dates from 1903 when he left the University. The First Church of Christ Scientist in Berkeley, which has drawn a steady stream of architectural visitors since its completion, was finished in 1910. In 1913 he designed the town of Brookings, Oregon, for the Brookings Timber & Lumber Company. In 1915 his Palace of Fine Arts at the Panama-Pacific International Exposition in San Francisco became one of the most admired buildings in the country and the only one of the Exposition buildings to be preserved. In 1918 Maybeck was appointed District Housing Representative of the United States Shipping Board Emergency Fleet Corporation and was put to work as supervising architect of the town of Clyde. His later work included the design of the campus of The Principia at Elsah, Illinois. After that came important commissions for Earl C. Anthony; the Packard buildings in Oakland and San Francisco, and the Packard show room and a house for Mr. Anthony, both in Los Angeles.

In 1900 the American Institute of Architects gave Mr. Maybeck a memorial for his work in connection with the Hearst Plan for the University of California. In 1926 he was given an honorary M.A. from Mills

The best known vein in Maybeck's work is perhaps the richly romantic handling of classical themes found in the Palace of Fine Arts (middle pictures, across-page) initially built for the Panama-Pacific International Exposition, 1915. It was seen by ten million people during the Fair, "is undoubtedly the most admired building in California." Less well known are modest groups such as the Forest Hill School at Carmel, whose interior (left, across-page) is still strictly contemporary

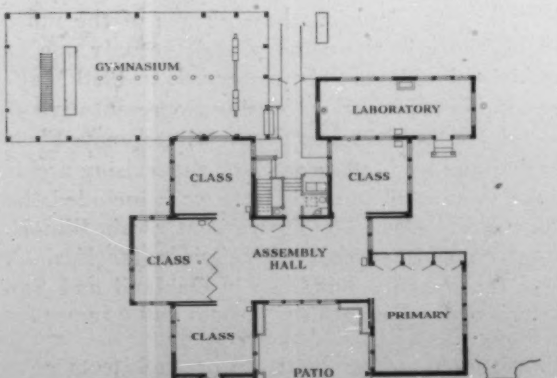


California School of Fine Arts Photo

RANDOLPH SCHOOL, BERKELEY, CAL., 1911

Now used as a residence, this group is still full of instruction for the school architect. The interior seen above makes use of that "clerestory" daylighting whose virtues are still being explored, and displays a sensitive, direct, and highly intelligent use of wood. Exterior trellis work makes beautiful organic use of vines for shade. The treatment of each square room as a separate "little house" confers that intimate child scale which most school plans miss conspicuously and entirely. The plan, with its square classrooms, its brilliant open use of space, its avoidance of waste areas, is still full of useful suggestion

California School of Fine Arts Photo


GYMNASIUM
LABORATORY
CLASS
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ASSEMBLY HALL
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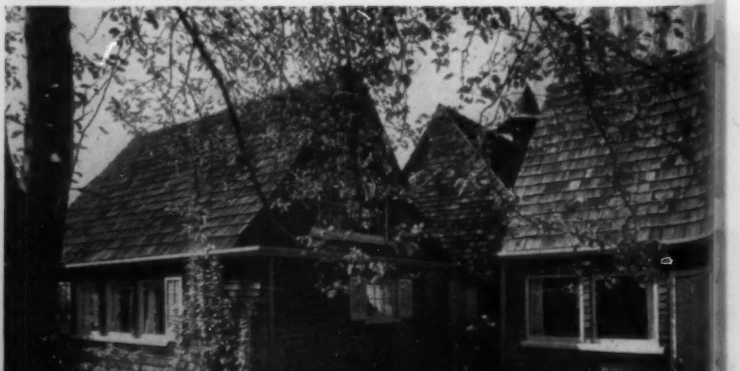
PORCH
STUDY

California School of Fine Arts Photo



College and in 1930 the University of California gave him an LL.D. He served as member of the Berkeley City Planning Commission.

Maybeck was one of "those gifted ones whose souls are finely attuned to the touching beauty of nature and humanity" in whose work Sullivan tells us to look for the beginnings of a characteristically American style. His great reverence for and knowledge of the past never resulted in a copy of anything which had gone before. No matter what the building was, whether the client thought he had a little German house from Nuremburg, a Swiss chalet, or a Gothic hall, the building always bore a strongly individual stamp; it was Maybeck before it was anything else. He had too vivid an imagination, too great an interest in new materials, was too eager to provide for contemporary life and too experimental in his approach to allow for anything else.

His best work was always done when he was most free to keep his design broad, work in his own way, to experiment and change. Nothing daunted him. He considered a mistake a creative opportunity. All his work shows his freedom, his escape from formulae, his imaginative use of materials. The very qualities of imagination and originality which were his greatest endowment sometimes became obstacles to achievement when boards of trustees and business, responsible for spending large sums of money, were afraid to venture off the beaten track.

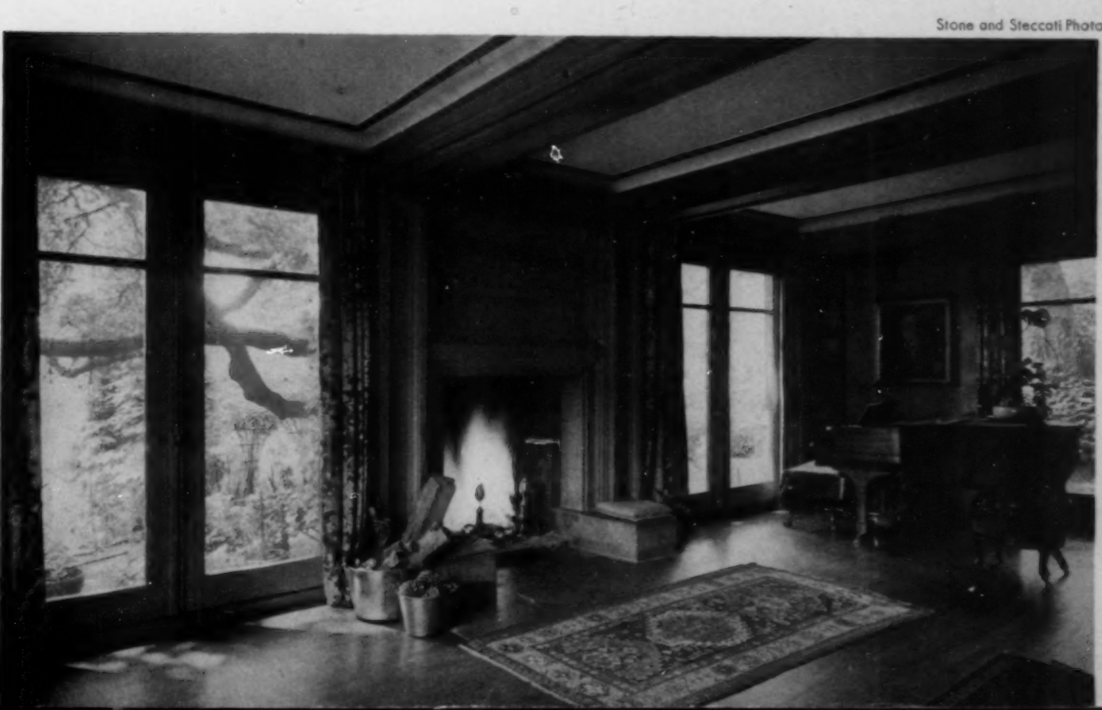
In his houses, however, his poetic imagination had free play. He liked natural materials, left natural. He keeps wood looking as much a part of the tree as is possible and lets it age the natural way. He uses the trellis and pergola to tie his houses to the landscape with vines. He says, "Houses simply built, depending on natural projections and their shadows for ornamental effect, show a variety of light and shade when seen from the distance and need no paint or artificial covering to call attention to their details. The artificially finished house must be denuded often or look shabby, and unless a work of art its brilliancy only advertises its weaknesses. A house of natural materials repeats the color of the rocks; made of plaster or concrete, stone, brick, terra cotta, rough wood, shingles or shake, stained or natural, it absorbs the light and with the help of trellises and vines hides among the greens and browns of the background and is finished for all time."

In his houses we find many things of interest. His large windows, with their extensive use of glass, his devices to save steps and make things easy for the housewife, which are only now coming into common use, make him one of the forerunners of the modern work day. It is largely because of this aspect of his work that his place in history will be secure.

CHICK HOUSE, BERKELEY

Maybeck's house work is a volume in itself. Our one glimpse into the living room of the Chick house (now owned by Mrs. John Mattias) shows a stately grace, a bold use of component forms (fireplace in glass wall) that makes one think of Mr. Gardner Dailey. The exterior projections of this house, such as the gabled roof, the entrance canopy, small porch roofs, dissolve remarkably into rich trellis work

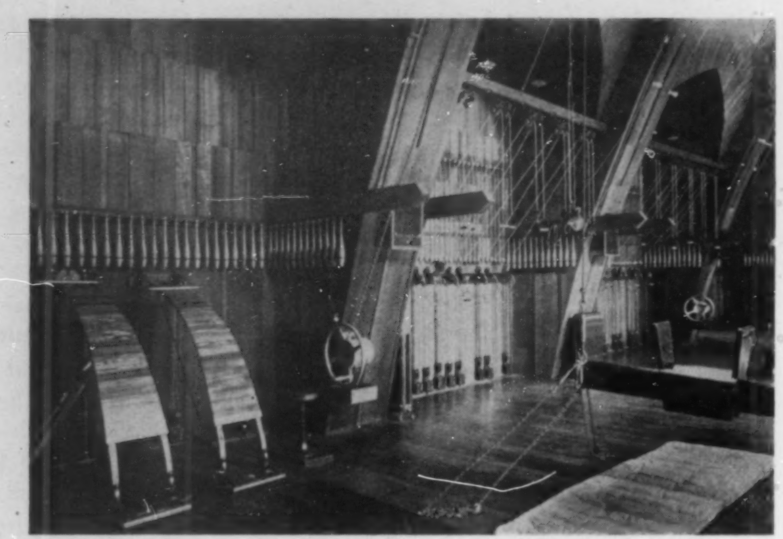
Stone and Steccati Photo

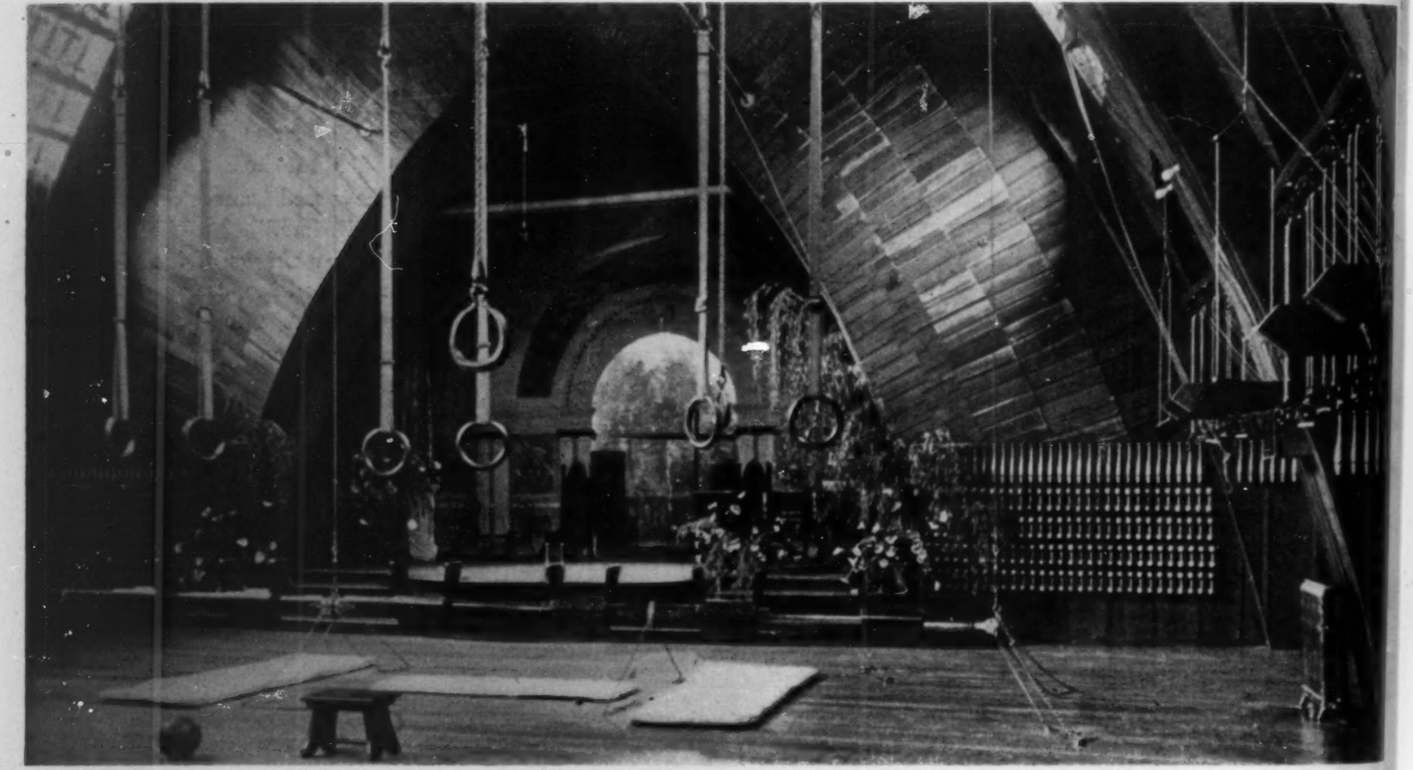


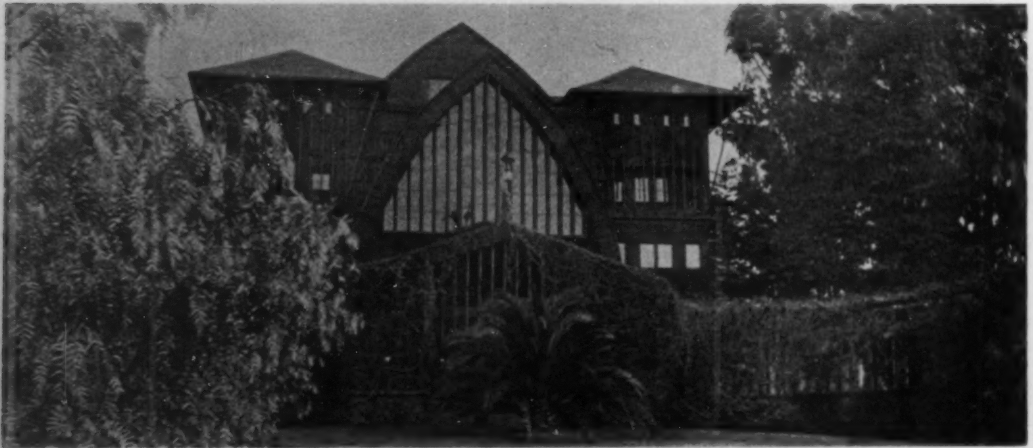
HEARST HALL, UNIVERSITY OF

BUILT 1900,

LOST BY FIRE, 1922

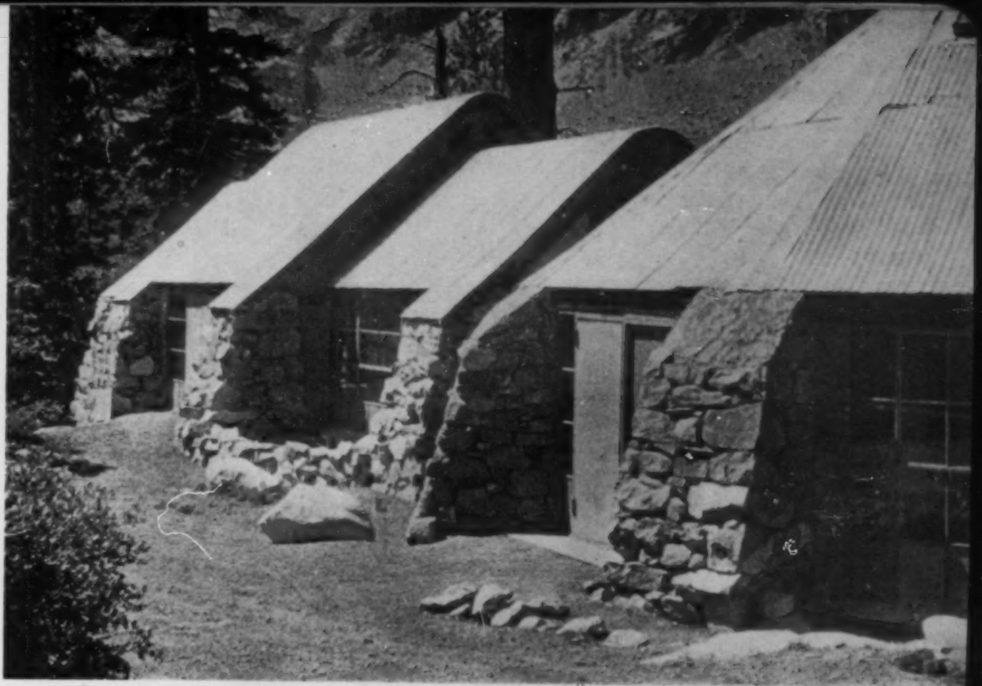




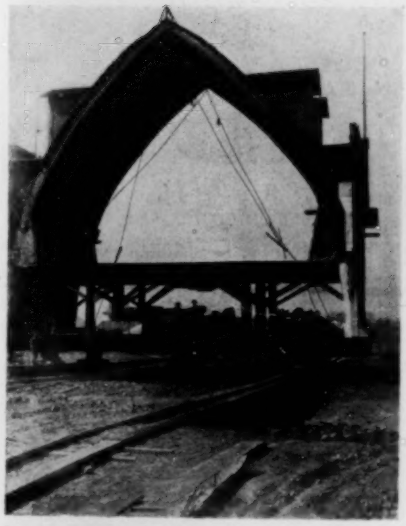


CALIFORNIA, BERKELEY

This woman's gymnasium for the University of California burnt down in 1922. Originally built at some distance from its ultimate site of the campus, the building had a fully laminated wooden arch construction that permitted it to be cut apart into sections and moved as seen below. The unconventional exterior not only expresses very directly the plan and the construction, but also portrays that knowing use of screening wooden verticals that has been treated as "news" when it has come to us from Finland or Sweden. The low curved structure to the right (bottom picture, opposite page) is a pergola'd passage

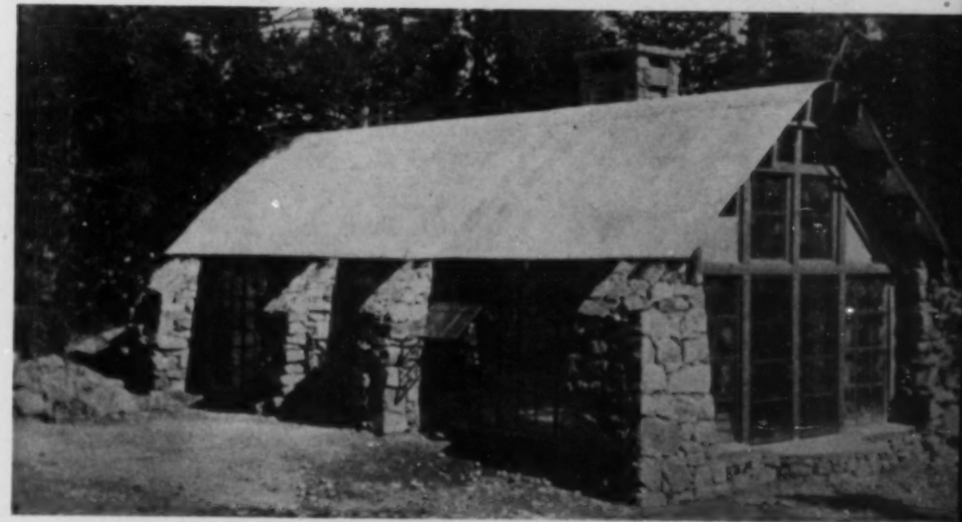


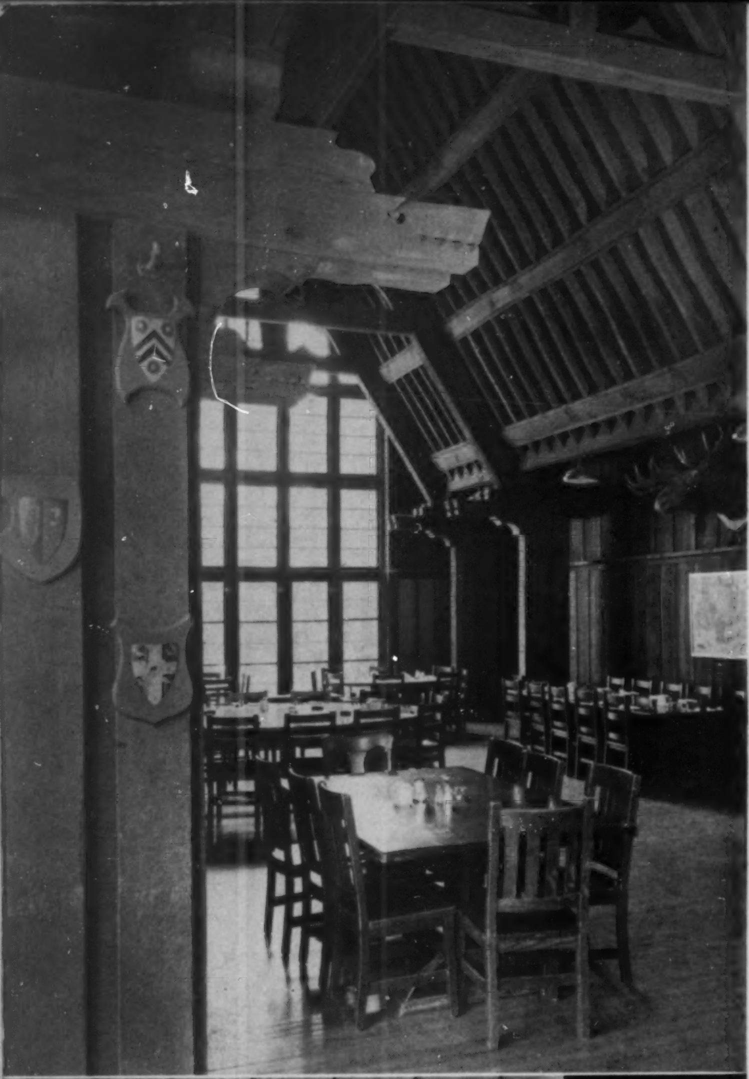
GLEN ALPINE RESORT, LAKE TAHOE, 1921

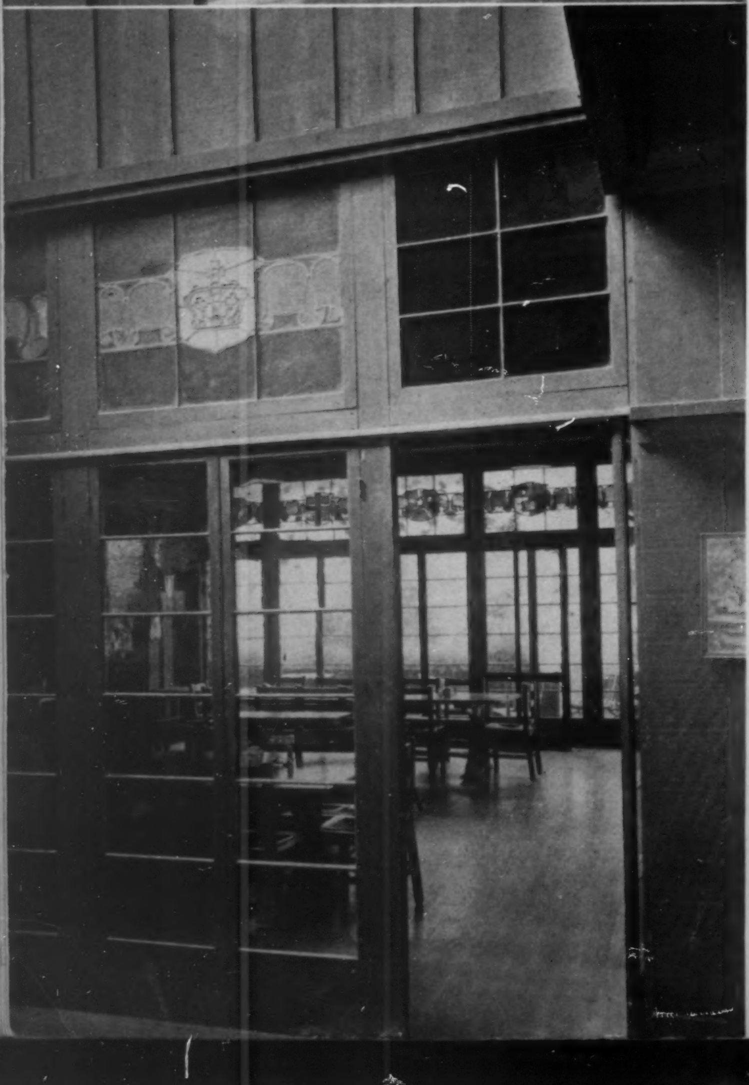


Fire again played a role when it destroyed the buildings of the Glen Alpine Mountain Resort on Lake Tahoe, and Maybeck was commissioned to design a new group that should be more nearly fireproof. Released from those irksome requirements of year-round insulation and heating that burden urban building problems, Maybeck produced this delightful fantasy. Massive stones, found on the site in abundance, were used for the great buttresses. Great poles, also from nearby, were used as roof purlins. These massive elements were then contrasted with the transparent weightlessness of glass walls in standard sash, and the whole sheltered under "tin" roofs. To use such corrugated sheeting was more daring then than it would be today. Rarely, even today, is its intrinsic nature so capitalized, including the possibility of the graceful curve at the ridge. The chimney is Maybeck's invention, sucking air through the slits, aiding draft on the principle of a Venturi valve

On the interior we find not only a very happy repetition of the pointed-arch construction in the longitudinal plane, but Maybeck's pioneering use of natural wood, at once functional (for rough usage) and highly decorative. One notes that the cedar shakes used as a lining are lapped to show the upper rather than the lower edges, in a manner that not only makes for an appearance of outward radiation in the arches, but also catches the sunlight like a beaded necklace. Even the projecting brackets (top view), apart from performing their functional duty, help to declare and enrich the sense of space. The very equipment, so familiar in gymnasiums, is used, with no forcing, to enhance both space and surface pattern







MEN'S FACULTY CLUB, 1902

Superficially, this well known interior at the University of California, Berkeley, owes more to "Gothic" derivations than other examples here included. Yet on closer examination every element is found to contribute to a magnificent interior which has had its effect on countless students and teachers

FIRST CHURCH OF CHRIST, SCIENTIST, BERKELEY, 1910

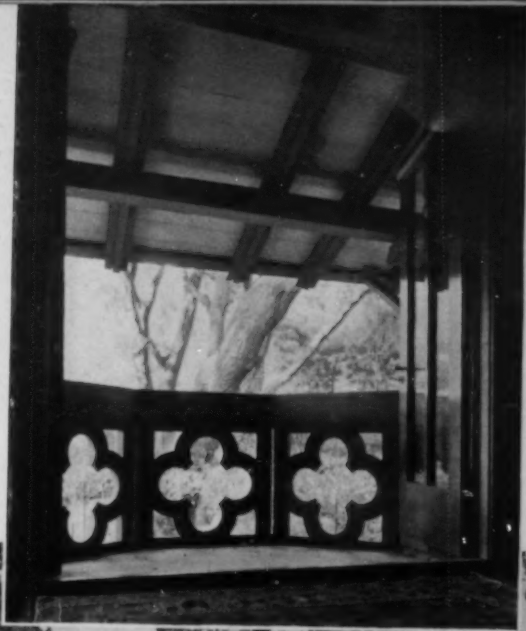
The interior of this American masterpiece has so far defied the efforts of photographers to convey its magnificent grandeur. The square central hall is spanned by two colossal diagonal arched timber beams which, in other hands, could scarcely have failed to be oppressive. Instead, played against the glass screen walls, scaled with absolute surety against complex minor structural elements, seen against the mysterious extensions of the central space, they speak of serenity and power. The exterior here seen may be allowed to speak for itself, in terms of the fullest architectural vocabulary, handled by a master

An exterior view of the Faculty Club serves to illustrate the straightforward use of wood, with the sawmarks on it. The lightness of framing is remarkable for 1902, and the surface texture is subtle

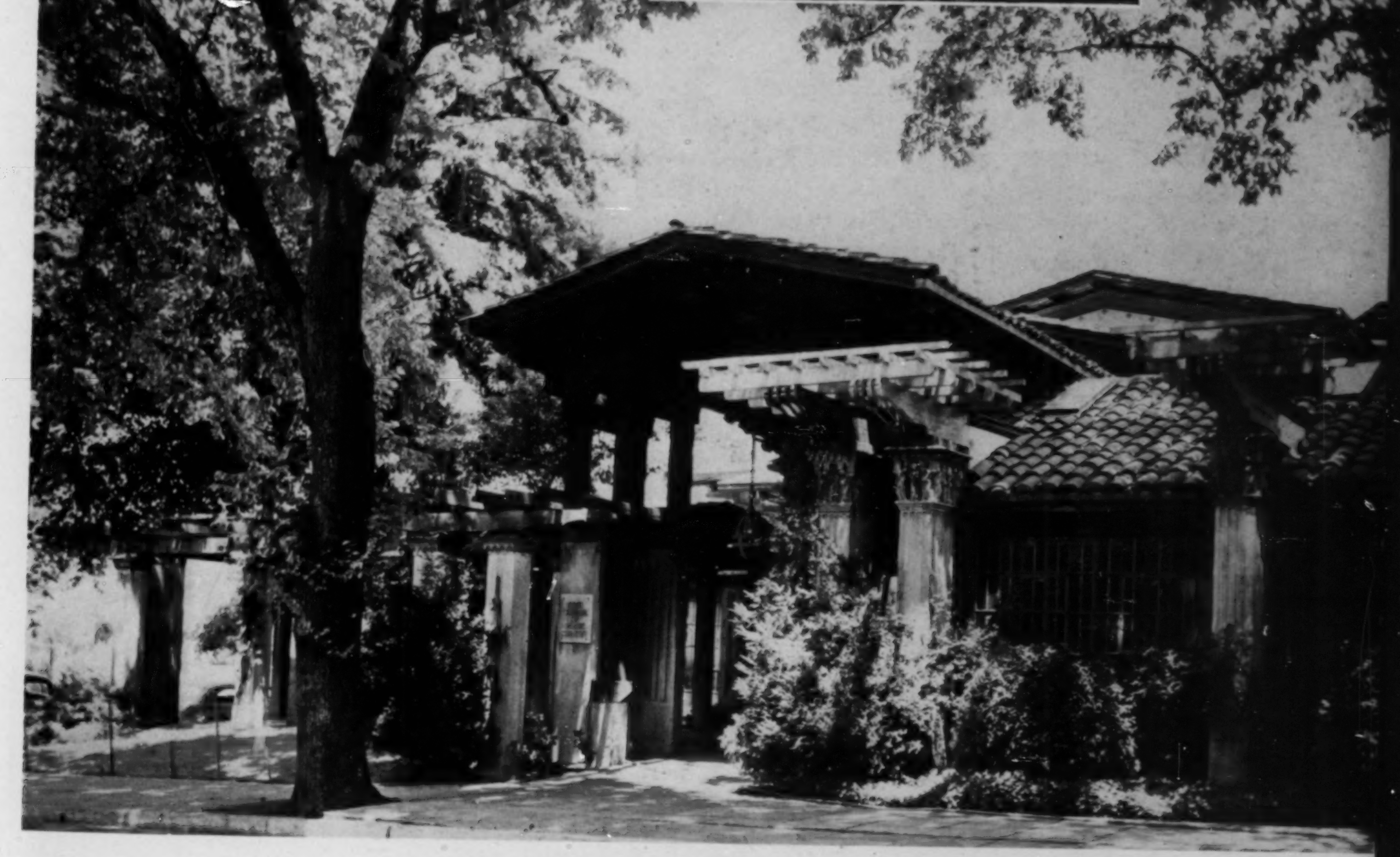
California School of Fine Arts Photos

DETAILS IN WOOD

To study Maybeck, says Miss Bangs, is to gain an entirely new appreciation of the architectural possibilities in wood. Few are likely today to copy these quatrefoils; all the better; yet how many can equal this sure-handed conviction of this architectural passage? From the Chick house (see also interior, p. 75)



Stone and Steccati Photo



Maybeck's infinite variety awaits a more complete documentation. At least, Maybeck's "book" has now been cracked open, helping to provide a "usable American past" for living designers

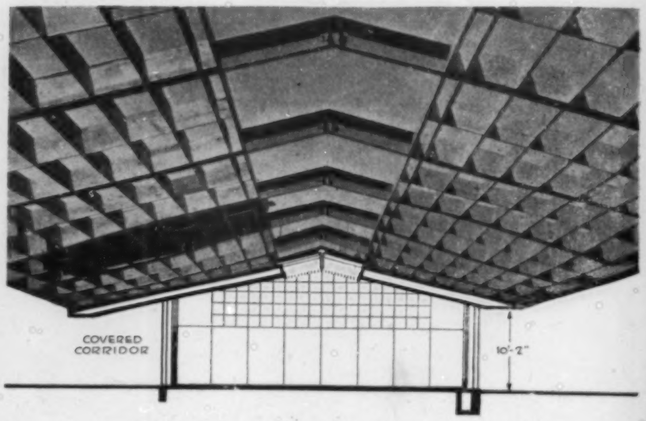
LAUREL ELEMENTARY SCHOOL

San Mateo, California

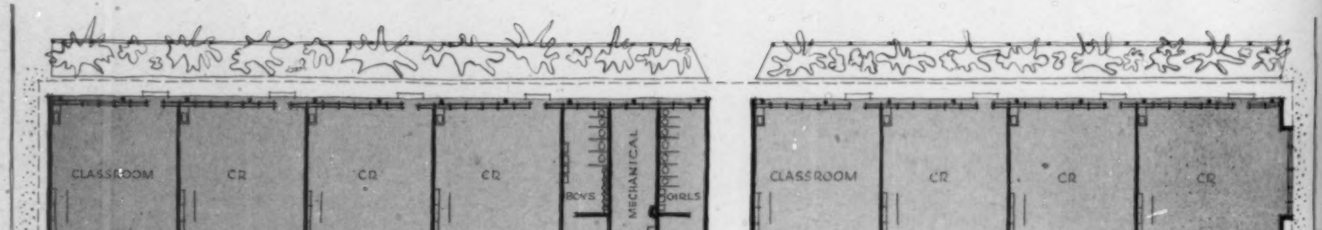
Franklin, Kump & Falk, Architect-Engineers

A NEW SCHOOL CYCLE GRACEFULLY BEGUN

By a happy conjunction, this new school can be presented with the opening of the new year. It begins a new technical cycle on the West Coast, the cycle of *top lighting*, or, as Mr. Kump calls it, "trilateral" lighting of classrooms. Few of these new schools have the finished character, the accomplished architecture, of this initial essay by the Kump firm. The combined drawing and photograph (right) shows the essential structural system. (Working details, including the skylight, appeared in the Record just a year ago.) But the deeper meaning of the school lies in the fine child scale, the happier environment for children.


COVERED CORRIDOR
10'-2"

Plan provides for an eight-grade program, using duplicate rooms. Through-passage does not interrupt roofs (see section, page 85)


CLASSROOM
CR
CR
CR
BOYS
MECHANICAL
GIRLS
CLASSROOM
CR
CR
CR
COVERED CORRIDOR
COVERED PASSAGE
CLASSROOM
CR
CR
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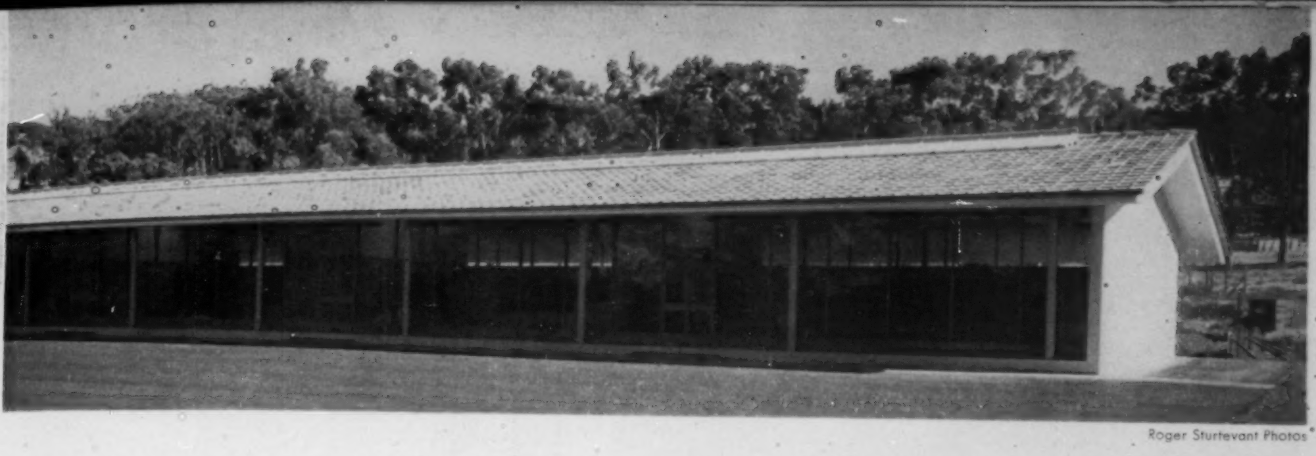
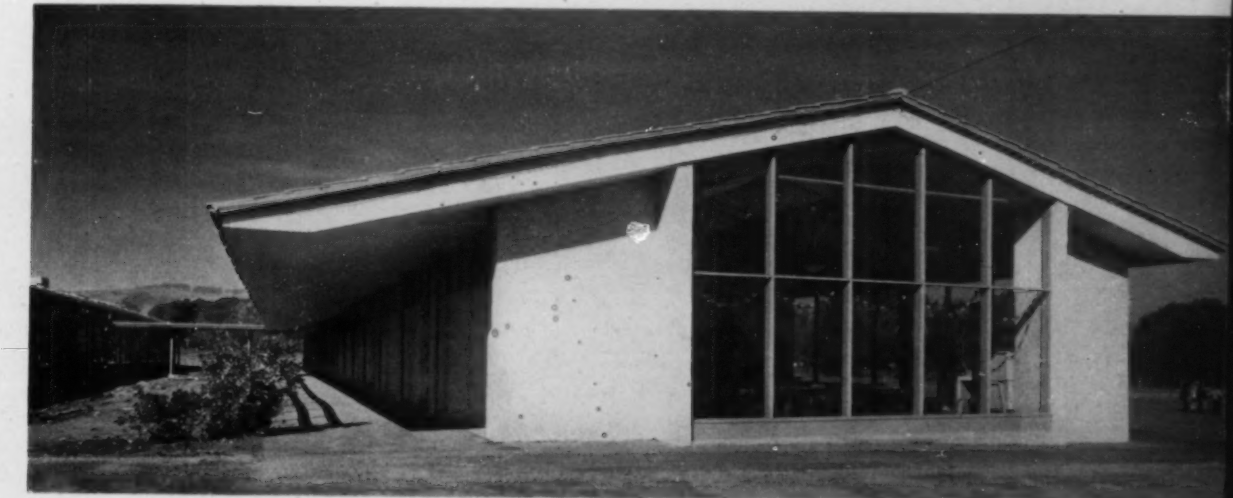
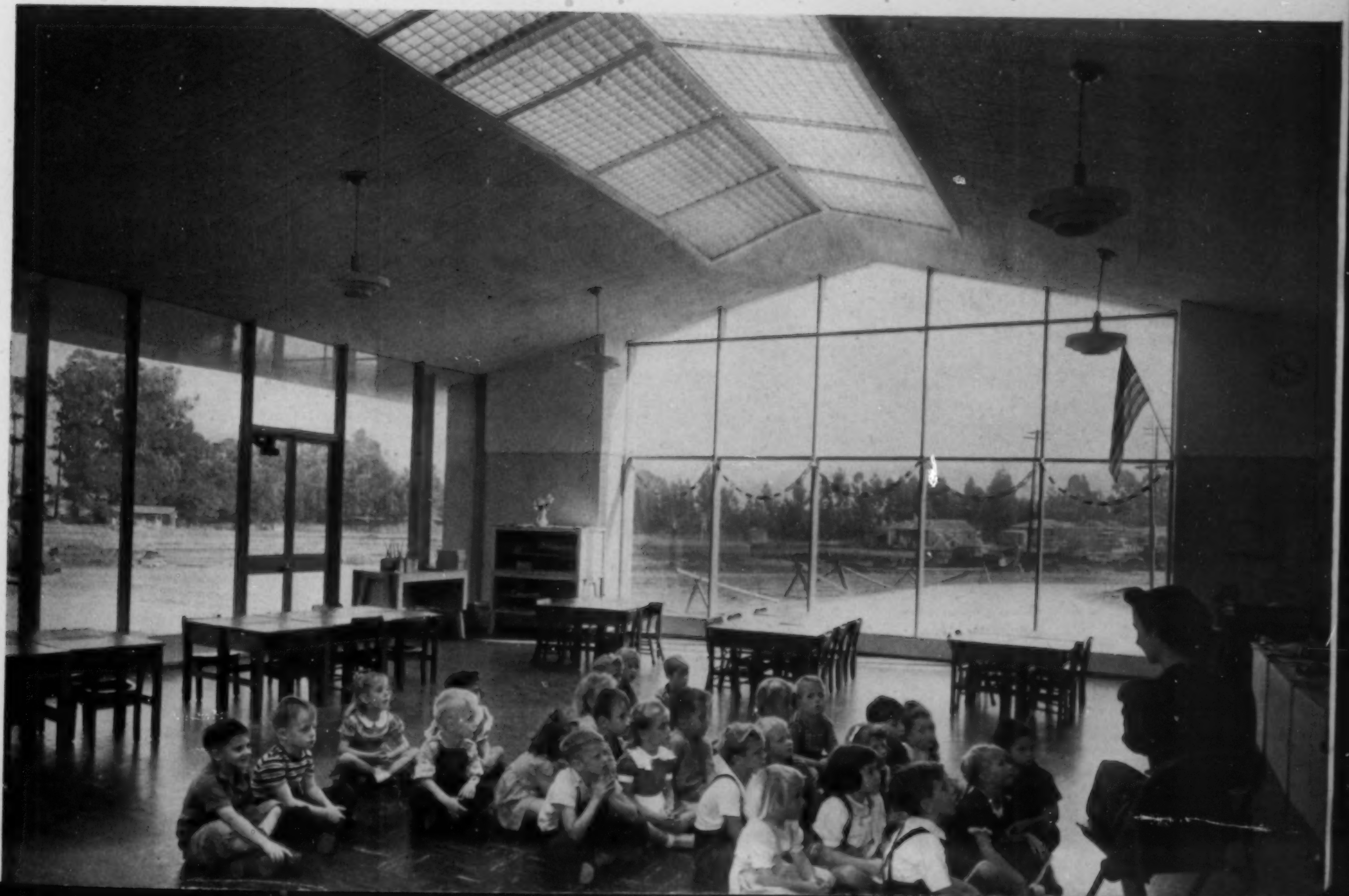
MECH
BOYS
STOR
GIRLS
CLASSROOM
CR
MULTI-USE ROOM
COVERED CORRIDOR
0
25
50

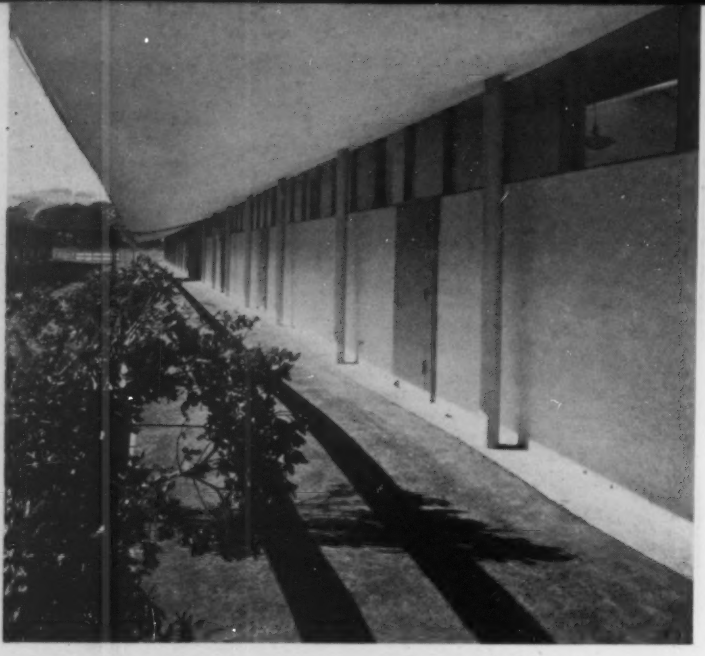


Roger Sturtevant Photos

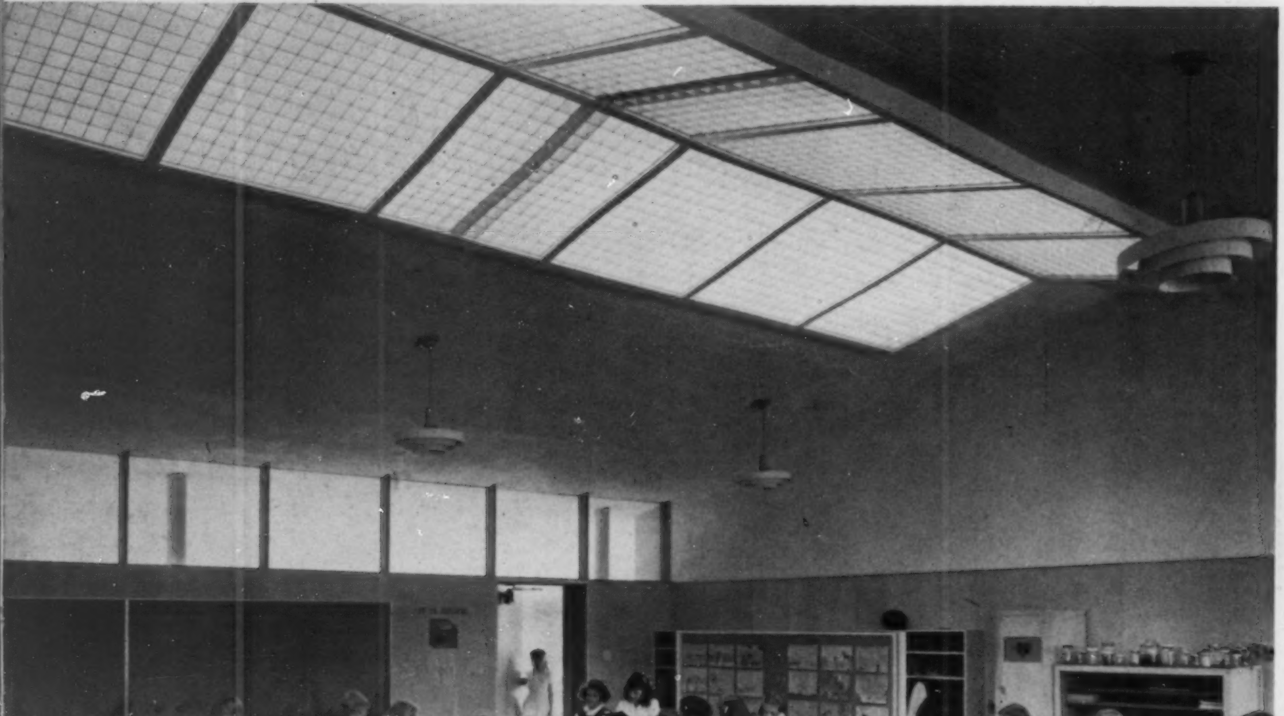
Above, the first school wing as seen from the north; directly below, its east end; bottom of page, interior of the kindergarten room in this east end. The full-length skylight along the ridge is almost unnoticed against the red terra cotta roof tile. The stucco walls and soffits are stone gray, exterior trim is dark orange, pipe columns are gray — a warm quiet harmony



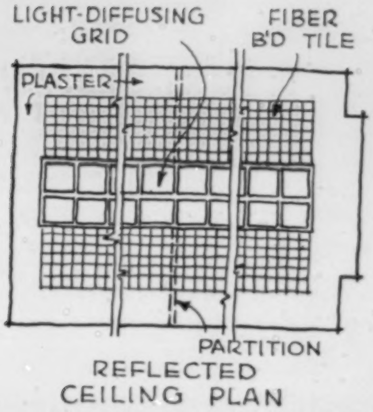




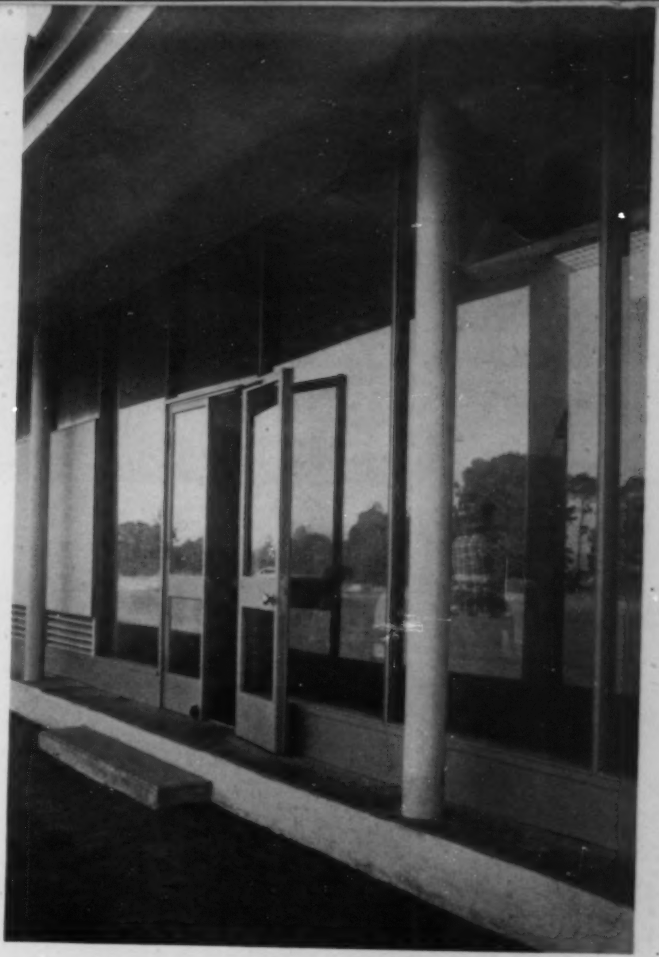
The wide south overhangs (left) with their sensuous plastic character, are cut off at exactly the point that will eliminate sky view and sky glare from anywhere within the room, including the extreme opposite corner where the photographer stood in the classroom below. Roof beams are steel, welded to pipe columns; purlins are of wood

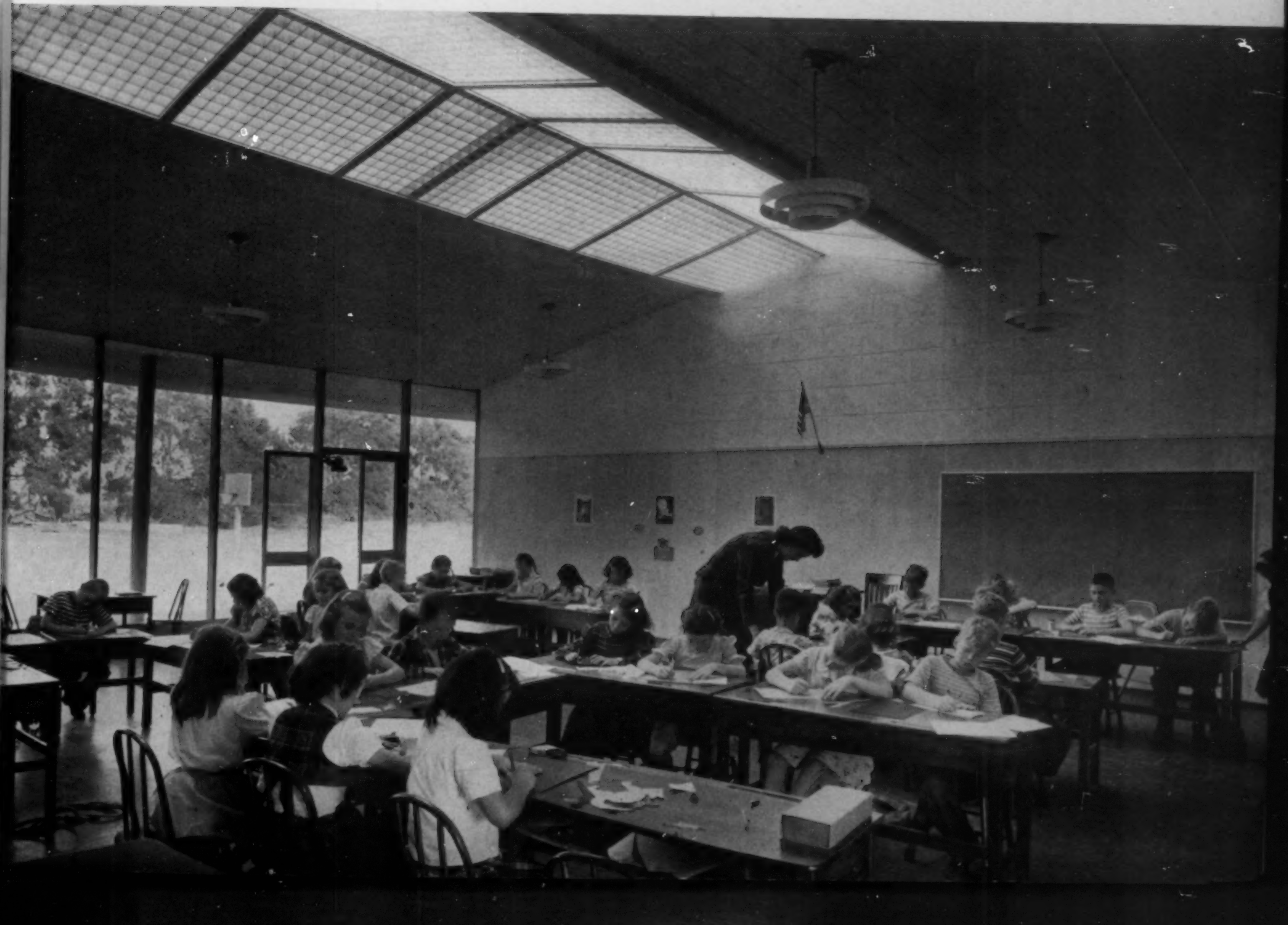


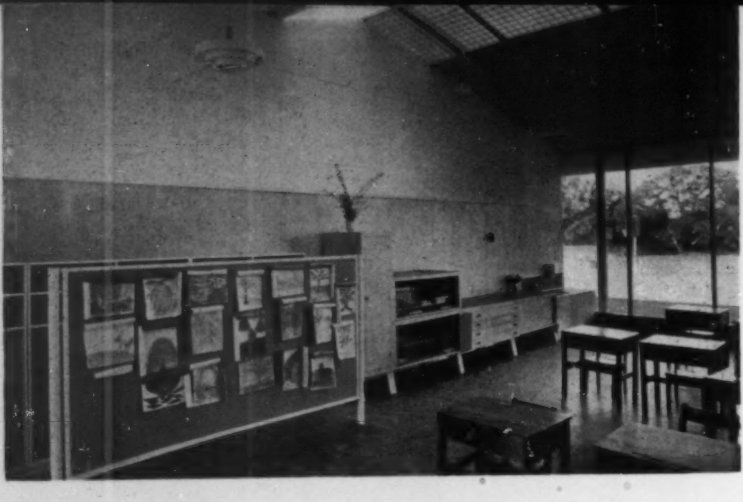
Interior view above shows egg-crate baffled skylight and transom lights of south wall. Across-page are seen the north windows of the same interior. Up to 7-ft. height (height of doors) interiors are faced with plywood having a white lead stain and wax finish; white acoustic tile covers all surfaces above


LIGHT-DIFFUSING GRID
FIBER B'D TILE
PLASTER
PARTITION
REFLECTED CEILING PLAN

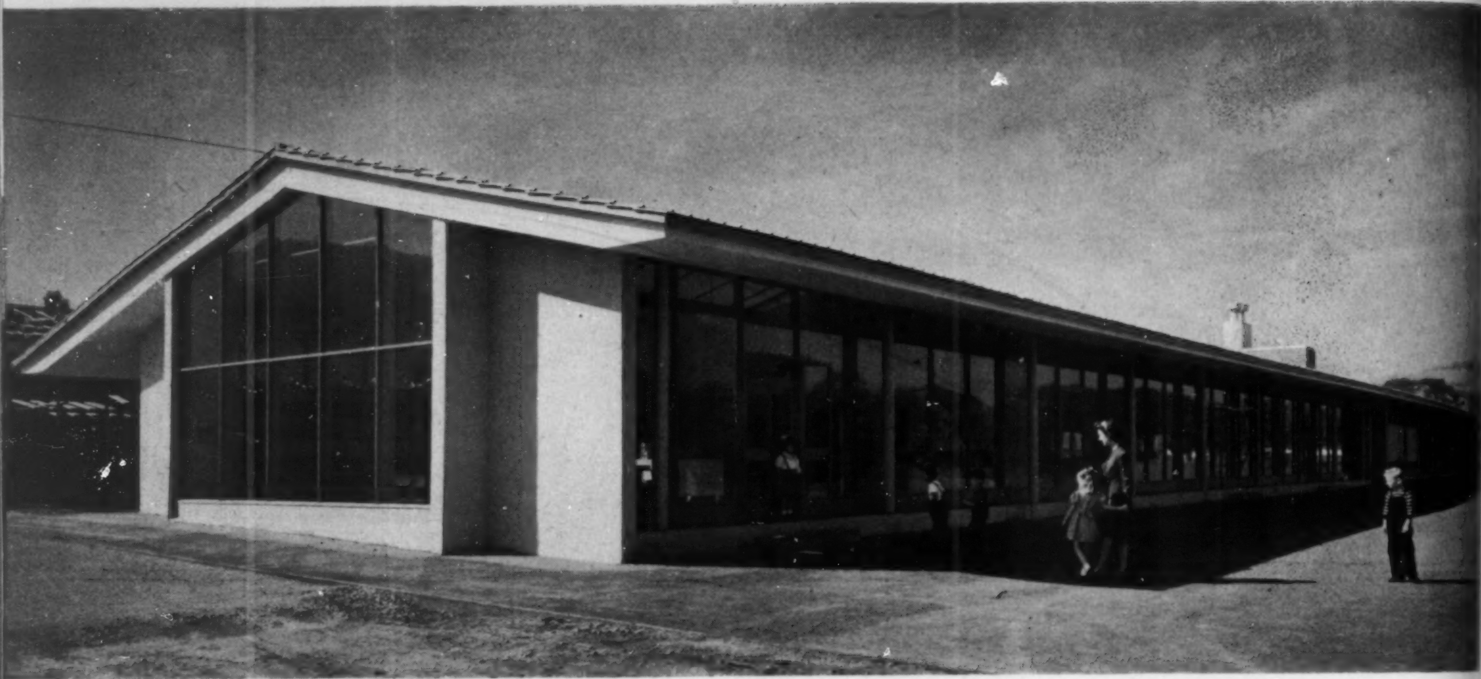
The narrower overhang looking north (as seen at right) merely gives protection against weather; it has the same subtle shape. Concentric ring type lighting fixtures, used with reflector bulbs, seen in room below, are very generally adopted in California for indirect lighting because easy to clean, rebulb, and maintain. Floors are asphalt tile

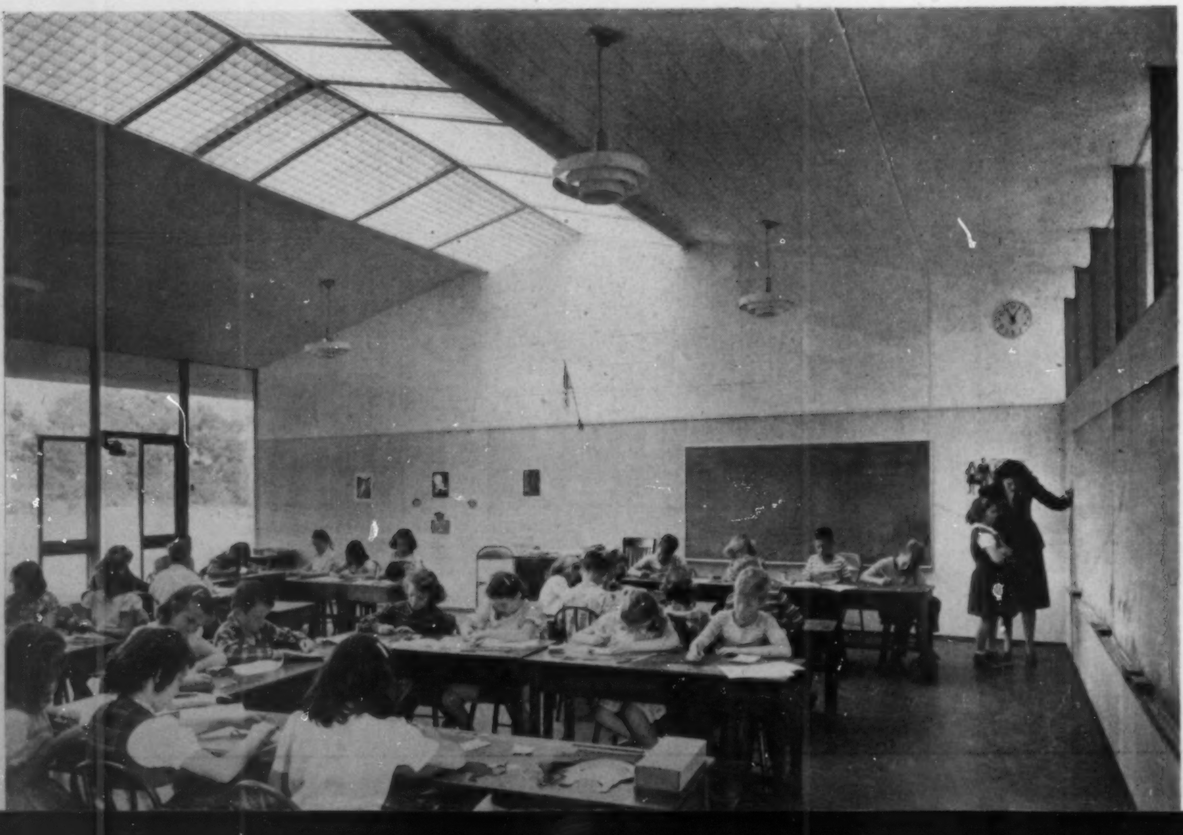




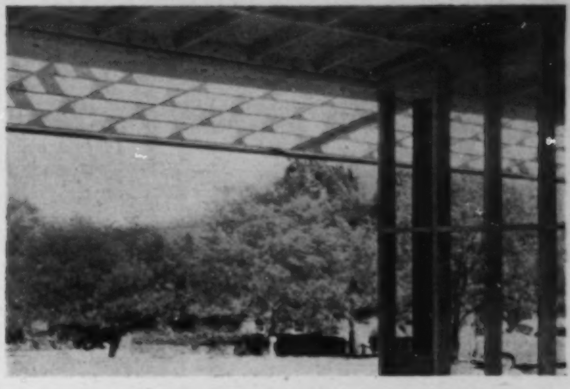


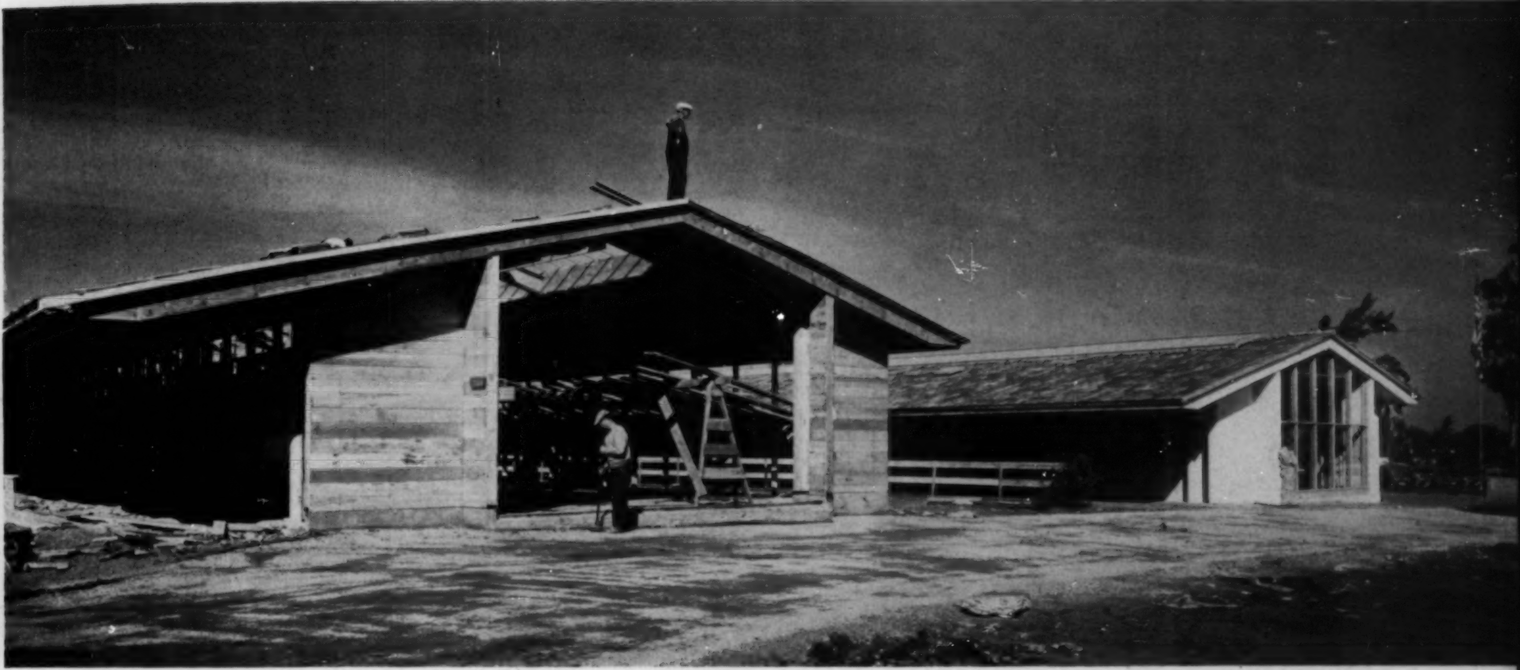
Rear of room (seen at left) contains the architects' standard school furniture. Below, school seen from the northeast; opposite page, from the southeast, with the second wing under construction in the foreground

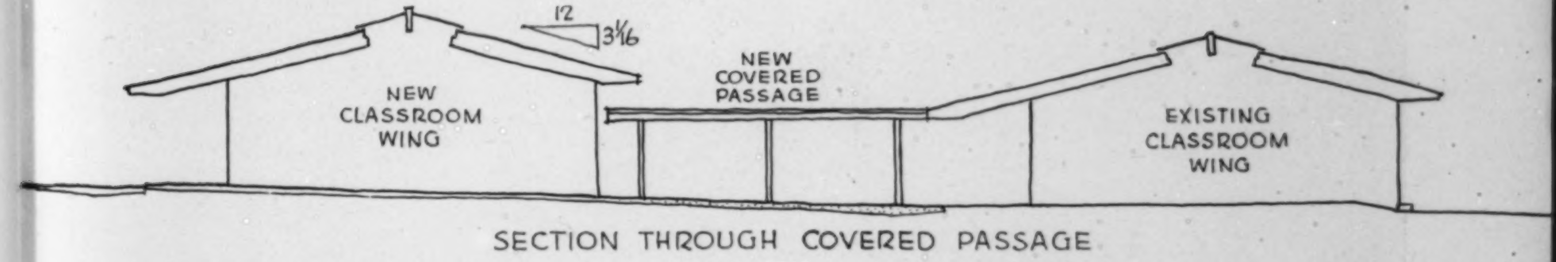




Progress photo at right, from another school, suggests the possibility of using the steel-beam and wood-purlin roof construction (page 80) for a coffered ceiling and pierced overhang admitting slightly more light





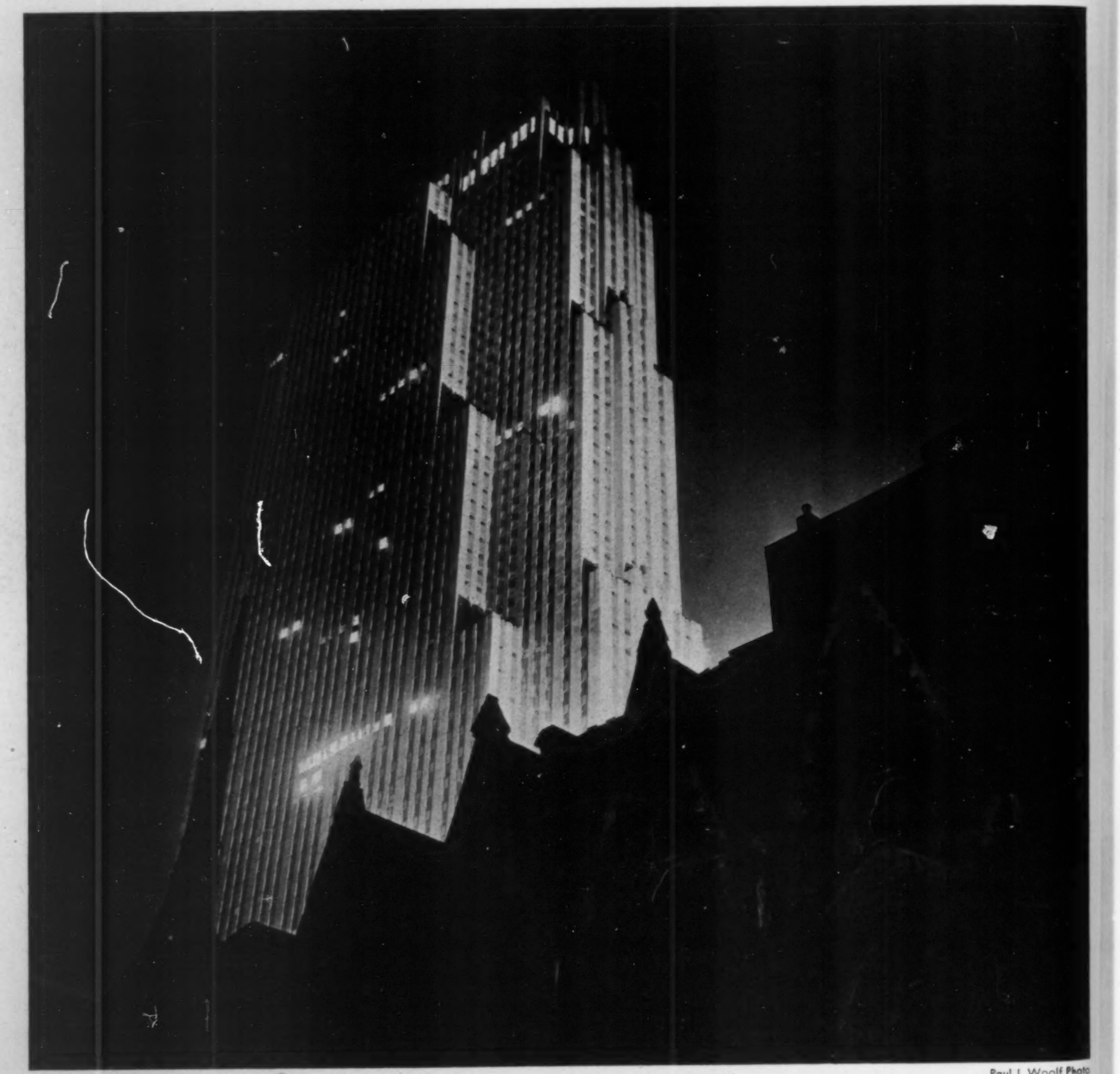


SECTION THROUGH COVERED PASSAGE

Excerpt from a letter from Photographer Roger Sturtevant:

"The teacher turned around and I noticed she was wearing a great pair of dark glasses. 'Oh no,' says I, 'we can't photograph that room. After all this talk about even light if we show a teacher wearing dark glasses it would be silly.' We chose the next room with teacher sans glasses. Hal timidly asked her how the light was to work in. She rhapsodized about the joy of even light and subsequent lack of strain, and she damned every other schoolroom she had ever worked in. Thus encouraged, and curiosity at boiling point, Hal snared the goggled teacher. Most apprehensively he asked her if she suffered from glare in her room. 'Why, not at all,' said she. 'Then why,' asked Hal, 'do you wear dark glasses?' In an amazed tone she answered, 'Dark glasses, dark glasses, oh I do have on my dark glasses. I forgot to take them off after we were out in the yard for recess"

PROLOGUE TO PROGRESS



Paul J. Woolf Photo

AN ADDRESS GIVEN BEFORE THE TENTH ANNIVERSARY MEETING O

BY THOMAS S. HOLDEN

President, F. W. Dodge Corporation

The ten years which have elapsed since this Washington Building Congress was founded have been years of confusion, years of conflict, years of decision.

In 1937 our economy, barely convalescent from a serious illness, suffered a relapse. It was a year of industrial recession, a year of costly pump-priming experiments, a year of court-packing and other attempts to change our political, economic and social structure into something new and different from that which it had always been. In the midst of perplexity and confusion the American people seemed to have lost faith in their destiny.

The defeatism of those years had not been overcome when the greatest war of history caught us in its toils. Our people entered into this gruesome enterprise with a spirit of grim determination to win, but with, at first, little enthusiasm for the future that might lie beyond a military victory.

In a talk I gave before the Michigan Society of Architects in April, 1942, I listed four sets of fears that so clouded the thinking of the American people at that time that many of them who never doubted that we could win the war were almost certain we could not win the peace. Those fears were: fear of a depression when all-out war production stopped, fear of an unmanageable national debt, fear of Russia and fear of socialism. Even then there were people, of whom I was one, who believed that those fears were exaggerated and that those problems would be successfully met.

Let us look at the record.

Reconversion of our economy to the uses of peace has been accomplished, not with a depression, but with the greatest volume of production and of employment in our peacetime history. A beginning has been made toward reduction of the federal debt; it is still a major problem, but everyone knows that prudence and good management can handle it.

Russia's postwar behavior has been a shock to those who believed it would be comparatively easy to find a satisfactory live-and-let-live basis for getting along with our one-time ally. I do not consider myself competent to appraise the menace of Russia's postwar behavior. But, in this connection, I would like to quote a statement by Walter Lippmann, one of our most intelligent observers of international affairs, who recently returned from Europe. On November 4, he said:

"My strongest impression after a tour in eastern and in western Europe and in Germany, is that the Russians have lost the cold war, and that they know it. We, on the other hand, do not know this, and are afraid to believe it, have mistaken the violence of Mr. Vishinsky's language for Russian power, and are, therefore, unprepared to use constructively the opportunity for a European settlement which is closer at hand than we think it is. . . . Our problem is not how to contain the Soviets. They are contained. It is to push toward a settlement which permits the recovery of Europe and of the world, and to relax the tension, to subdue the anxiety, and to end the panic."

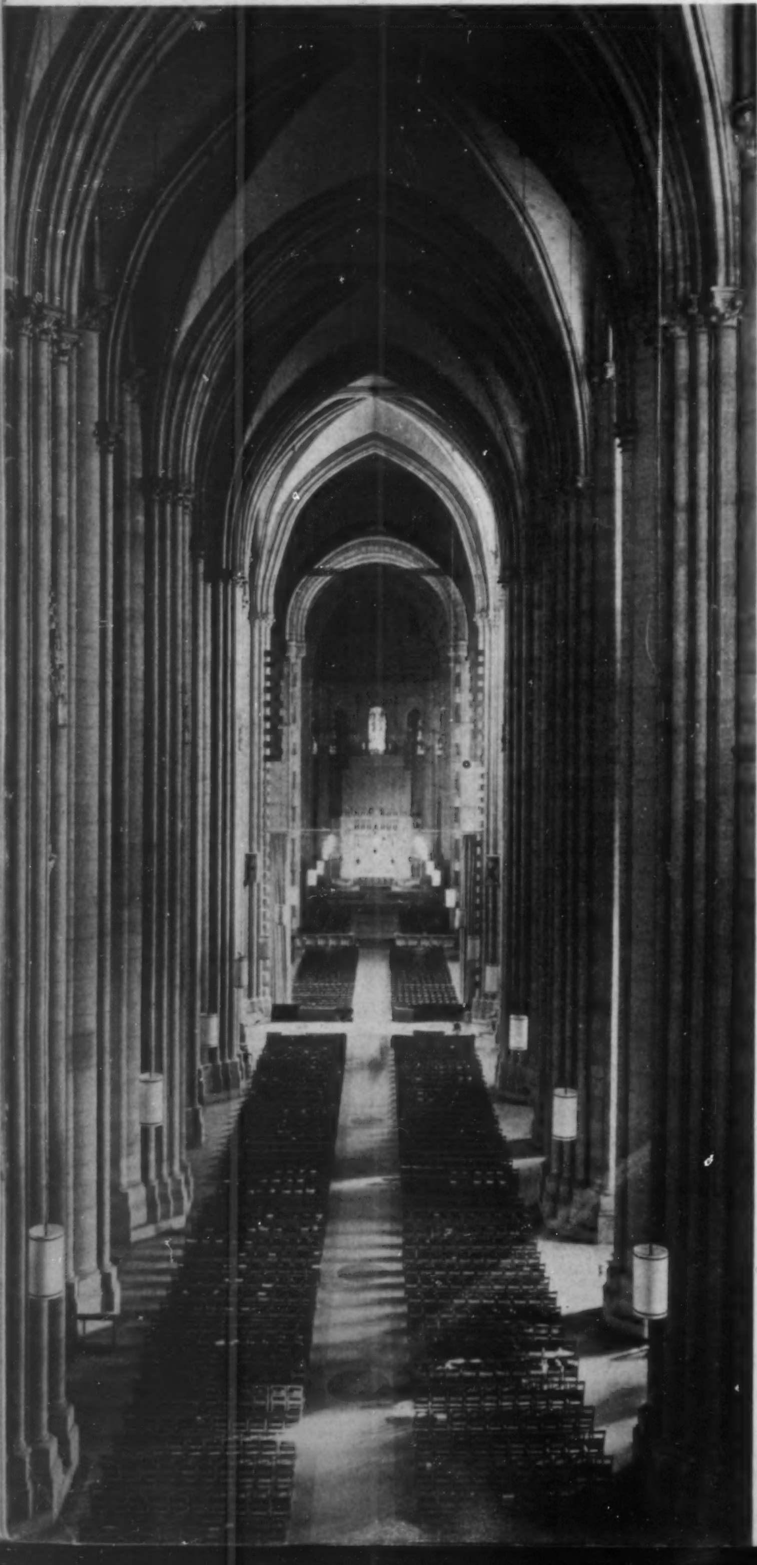
With the fourth menace to their postwar peacetime progress, socialism, the American people have dealt effectively. To be sure, they were never asked outright to vote for socialism, and thus have had no direct opportunity to vote it down. But under the guise of national economic planning various socialistic programs have been offered and tried out; most of them have been rejected. The planners who tried to perpetuate OPA, the ones who tried in 1946 a vast government housing program and conspicuously failed with it, and the ones who have recently concocted a new synthetic crisis out of the Marshall plan and the current price inflation are, I believe, in full retreat. Our people have not only poured many billions of dollars into socialistic experiments at home; they invested another three and three quarter billions in the British national planning experiment. Perhaps that final object lesson in futility was worth the price.

The idea of national planning seems to thrive best in an atmosphere of fear and defeatism. In the mighty effort of war the American people rediscovered their own strength and their own capacity. They conquered fear. They recalled in time that their own freedom was more precious than the supposed security offered by the planners. They recovered their ancient faith in American ideas and in themselves. Again quoting Walter Lippmann (and this is something he wrote five years ago): "There has come out of the nation itself, out of this people who have not been very pleased with themselves for twenty years because they were not using their faculties for great ends, a veritable explosion of national energy which will shake and shape and alter the world." Another writer, John Gunther, concludes his recent book, *Inside USA*, with this statement: "This country is, I once heard it put, absolutely 'lousy with greatness' — with not only the greatest responsibilities but with the greatest opportunities ever known to man."

This energy of which Mr. Lippmann spoke, this energy which shakes and shapes and alters the world, is the stuff of which a great civilization and a great society are made. It is the ingredient which cannot be measured, weighed or enumerated in statistical tables. It is, therefore, the factor that the planners cannot

"Should not the construction industry be vital and dynamic, characterized by maximum diversity and flexibility . . . Should it not progress without becoming standardized . . . Should it not live by rules that guide but do not regiment?"

Wide World Photo



control; sometimes I wonder if it isn't something they do not understand.

In spite of our censuses of population, our maps of natural resources, our inventories of factories, schools, churches, automobiles and telephones, our American society is not easy to understand. Here is what an outstanding American, David Lilienthal, said a short while ago: "What we have, actually, is not a system at all, but almost its opposite, that is, a society of the greatest imaginable diversity, and flexibility, taking things as they come, deciding how to handle situations by the facts of each situation itself — 'doing what comes naturally.' The only way in which it can be said to be a 'system' is to say our 'system' is to have no system." I might sum up by saying that a system is that which defines limitations, whereas our American society is one which defies limitations. The American economy includes three and a half million independent business enterprises and six and a half million farms, a total of ten million centers of economic initiative. It is impossible to conceive any system originated by planners with finite minds which would not measurably curtail the energy, resourcefulness and invention of such a society.

A friend of mine once described to me the difficulty of understanding our society and our free enterprise by asking me to think of the bewilderment of an observer from Mars who might find himself in New York's Grand Central Terminal at the rush hour. Viewing the milling crowds moving in all directions at once, he would likely say: "This is chaos." But it isn't chaos. Every man and woman and child knows exactly where he is going. His destination is his own business, whether it be Chicago, Montreal, Mamaroneck, or the Lexington Avenue exit. He expects the terminal officials to supply him with an information booth, ticket windows, time tables, gates with the trains plainly marked, and a few other essential services and conveniences. He decides his destination and finds the way to get there. An excellent way to produce chaos would be to try for detailed regulation of the traffic. The chaos which the Martian seems to see rests in the limitations of his own comprehension. Put an economic planner in there and he will soon turn out to be a policeman.

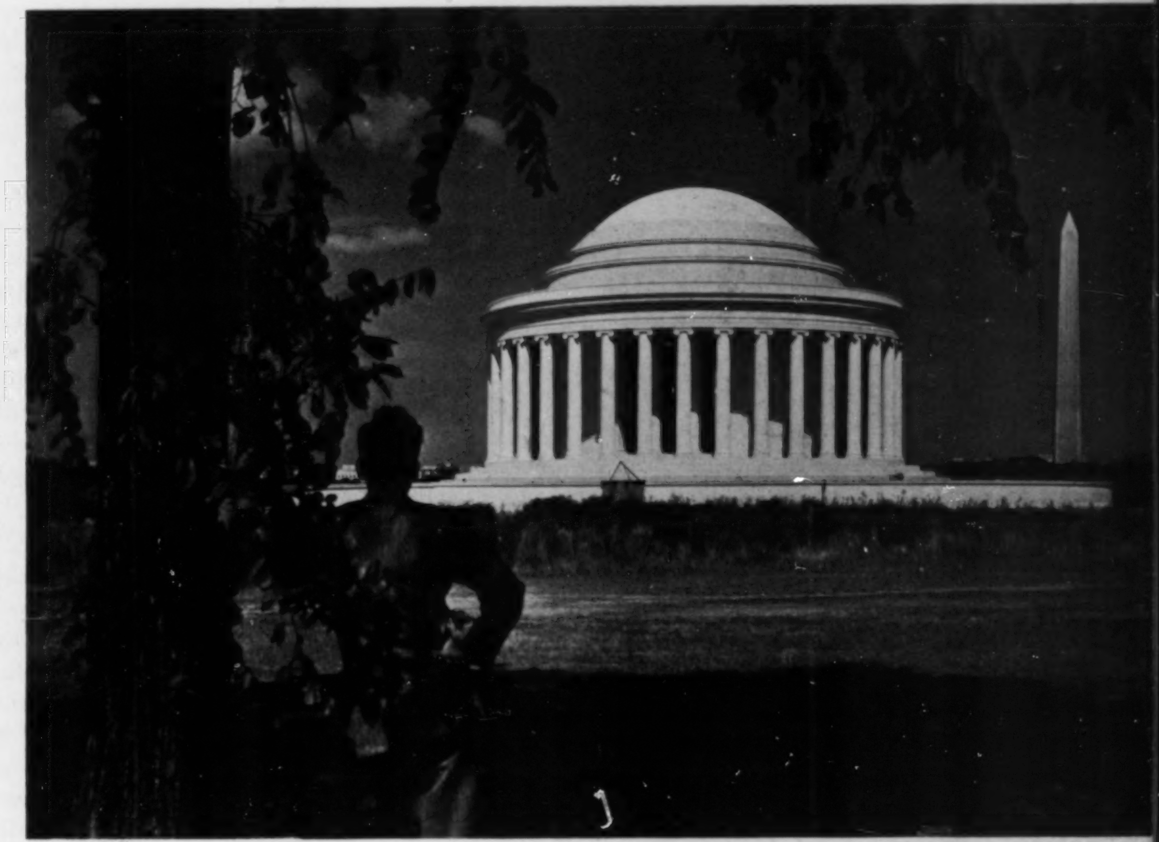
To this society without a system history has passed the torch of western civilization, the responsibilities and opportunities of leadership in the western world. A nation which, in bewilderment, ran away from its destiny twenty-five years ago, is now facing its destiny in sober, quiet confidence. Can there be any doubt that this country will meet its peacetime responsibilities? Can there be any doubt that, in meeting them, it takes advantage of the greatest opportunity for expanding prosperity that this or any country ever had?

An expanding civilization must build. Every new industrial enterprise, every new social organization, every new means of transportation, every new family, every new program in the fields of religion, education and public health, requires appropriate facilities of the most advanced type. The opportunities for advancement of the American construction industry coincide with the opportunities for advancement of American civilization and prosperity.

What kind of construction industry can best serve this vital and dynamic American society?

Should not the American construction industry be itself vital and dynamic, characterized by maximum diversity and flexibility? Should it not progress through development of sound and ever-improving standards, without ever becoming standardized? Should it not live by rules that guide but do not regiment? Should it not be capable of producing, with a minimum of time and effort any kind of structure, at any time, anywhere?

"Should it not be capable of producing, with a minimum of time and effort, any kind of structure, any time, anywhere?"



Wide World Photo

I am convinced that, of all our great American industries, construction is the one which combines greatest diversity and flexibility with high technical and managerial competence. If proof is needed, the vast and manifold performance in war construction can be cited. This industry didn't need to convert to war, or reconvert to peace; it simply did what came naturally.

To meet the urgencies of war mobilization and war production it switched overnight from office buildings, schools, churches and other civilian facilities to naval bases, cantonments, flying fields, shipyards, war plants and war housing. In a brief time it doubled its prewar capacity, completing in 1942 the largest total volume of construction of any year in the country's history. Many of its projects were completed ahead of schedule. Even while work proceeded at breakneck speed, there were adopted startling innovations in design and construction methods. In the midst of war a modern efficient home-building industry was created. Builders applied their assembly line techniques to building ships, their management know-how to operating industrial towns and wholesale forwarding and shipping of millions of tons of war material abroad for account of the armed services. Within the armed services themselves the army engineers and the Seabees displayed energy and resourcefulness not surpassed by any other branch.

Unfortunately, the great performance of the American construction industry, in war and peace, is not half appreciated by the American people. This people, with its love of short-cuts, has grown into easy acceptance of slogans in lieu of truth; and one of the most frequently repeated slogans is the one about the supposed backwardness of the construction industry. So often has this silly statement been reiterated by so-called housing experts, facile journalists and radio commentators, that the idea of backwardness has become fixed in the public mind; even some people in the industry have begun to believe it.

I would like to ask this question: To what other country shall this backward industry look in order to get its methods up to date, to improve its know-how and to win the commendation of its critics? The fact is that during the war such countries as Great Britain, Russia and France sent official commissions of architects, engineers and builders over here to find out how our construction industry functions. They don't seem to think we're backward.

Show me any other country which, during the war, developed revolutionary new techniques of factory design and layout. Show me another country that can match the parkway systems of Westchester County and Connecticut. Show me another country where the family of average income is better housed, in better neighborhoods and with more comforts and conveniences, than in the United States. Show me another country where an Empire State Building can be completed in eighteen months. And, finally, will you please show me any other country which wastes so many millions of words belittling the capacity and accomplishments of its builders?

". . . it switched overnight from office buildings, schools, churches to naval bases, flying fields, shipyards, war plants"

"But," say the critics, "that isn't what we meant. Just look at the automobile industry." Well, let's look at it.

The American automotive industry is a marvelous industry, one of America's modern industrial miracles. It makes motor vehicles, and makes them better and cheaper, than any other motor vehicle manufacturers can make them. It makes a reasonable variety of passenger cars, trucks and trailers. It has made them so well that its product has wrought vast changes in the economic and social life of America.

But what does the construction industry make? It makes the parts factories, and the assembling plants where the automobiles are made. It builds the sales rooms, the service stations, the public and the private garages. It builds the hard-surfaced highways and the scenic parkways, and the bridges over which the automobiles travel. It makes these and many other things. It builds passenger and freight terminals and airports. It builds schools and hospitals and churches. It builds hotels and apartment buildings and houses. It lays down water mains and sewers. In each of these many categories it builds to many different designs, to meet the varying needs of ten million enterprises and a hundred and forty million people.

For such an industry the criterion of competence is its diversity and flexibility, its ability to do its own job well, and its capacity to progress, not its similarity to or dissimilarity from another industry whose functions are totally different. I maintain that there is no common yardstick by which these two great industries can be compared in order to evaluate their relative efficiency. Seen in true perspective, the job of producing motor vehicles is a very simple thing compared with the job of designing and producing all the apparatus for a diverse and complicated civilization. The construction industry is called upon to create facilities for production, transportation, commerce, education, religion, recreation and the 24-hour a day living requirements of 140,000,000 people.

Both industries are currently facing a common problem, the problem of catching up with a backlog of accumulated demand in a period of shortages and price inflation. This year, second full year after cessation of hostilities, housing completions will reach an estimated 85 to 90 per cent of previous peak production; passenger automobile production will be 75 to 80 per cent of its previous peak. The would-be car purchaser is currently promised delivery in 12 to 14 months if he is ordering a Ford, eight to 10 months if it is a Buick. He can get immediate delivery of a new car by paying a stiff premium price to a so-called used car dealer. Many prospective purchasers of houses are also having to wait. Purchasers of used houses have been paying scarcity prices, just as purchasers of used cars have been doing. Purchasers of new houses have had to pay premium prices, not charged in any dealer's mark-up but in the scores of excess cost items that the builder has had to pay in the shortage market.

Here are two major industries, both operating under the difficult conditions of transition from war to peacetime production, both as yet unable to meet current demands. Yet I have heard no one charge the automotive industry with inefficiency or backwardness, or suggest that the government could do a better job. The automotive industry has a better press.

If the American people can be persuaded to appraise the construction industry by the best of its accomplishments, and by the high competence of its average accomplishment, they will learn to be proud of it. They must somehow be brought to realize that you cannot have diversity and flexibility without a large measure of freedom, and that you cannot have freedom without tolerating a fair degree of variation in competence and in business practices. As I see it, the way to improve the industry's efficiency is to liberate it from the little monopolies and the petty restrictive systems that impede its forward progress.

Those abuses which are most frequently criticised are only partly of the industry's making. They consist principally of monopolistic or uneconomic practices at the local level. Certain of them are deeply embedded in federal, state and local laws. I am thinking of the immunities of labor unions from anti-trust prosecution, of licensing laws and laws restricting or regulating bidding practices, and local building codes. Beyond these outmoded laws are restrictive trade practices that limit competition and block progress. It is to be hoped that current Congressional investigations will point out sound ways in which some, if not all, of these abuses can be corrected.

Federal legislation may liberate the industry or it may impose new shackles on it. The Federal Home Loan Bank System and the FHA liberated home building from the handicaps of horse-and-buggy home finance. The standards they established contributed greatly to the progress that has been made in house design and in home-building methods during the past ten years. Use of these home-financing facilities has been voluntary, not compulsory. Therefore these institutions have served to widen opportunities for building progress. How different was the philosophy of the veterans' emergency housing program, which sought to accomplish its purposes by means of controls and restrictions; it failed as it deserved to fail.

In his recent speech which I have already quoted earlier in this talk, Mr. Lilienthal mentioned a third characteristic of our society which is just as important as its diversity and its flexibility. He said: "I am asserting that the vitality of our distinctive institutions of production and distribution of goods depends not upon rigid and fixed economic principles, but upon ethical and moral assumptions and purposes; that our unparalleled productivity and standard of living are not the consequence of an economic system, but rather the other way around; that our economic success and our flourishing economic institutions are the consequence of our ethical and moral standards and precepts, of our democratic faith in man. We have ethical guide lines in this country. We have developed rather highly a sense of what is right and what is wrong, of what is fair and decent, and what is just crude use of arbitrary power."

This Washington Building Congress was founded ten years ago, a free association of construction industry men, dedicated to promotion of ethical standards in the construction industry, to promotion of technical competence and improved relationships among the diverse groups that form the industry. Your progress and the progress of your industry throughout the nation has paralleled the progress of our great country. It has been a progress from doubt and defeatism to renewed faith, a progress from struggle to accomplishment. I congratulate you on the successes of the past ten years. I congratulate you on the great future that lies ahead, for our country, for our industry, for those organizations and associations that work unceasingly for better understanding, better service, and better accomplishment. The past is only prologue.

Wide World Photo

> *"Show me another country that can match the parkway systems . . . Show me another country where the family of average income is better housed, in better neighborhoods and with more comforts and conveniences . . ."*

McLaughlin Air Service Photo

HOSPITALS

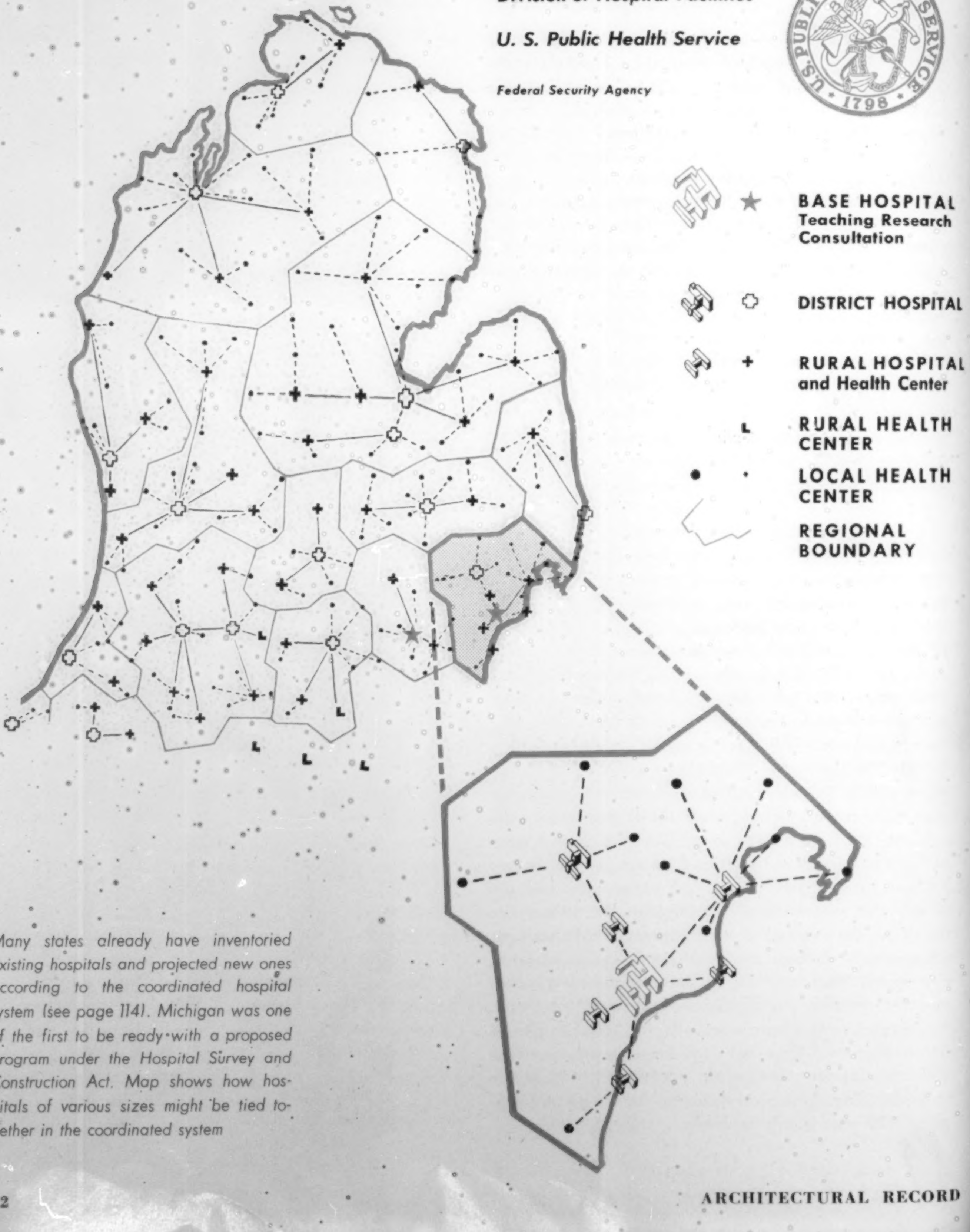
FOR THE COORDINATED HOSPITAL SYSTEM

Division of Hospital Facilities

U. S. Public Health Service

Federal Security Agency

1798


★ BASE HOSPITAL Teaching Research Consultation
DISTRICT HOSPITAL
+ RURAL HOSPITAL and Health Center
L RURAL HEALTH CENTER
● · LOCAL HEALTH CENTER
REGIONAL BOUNDARY

Many states already have inventoried existing hospitals and projected new ones according to the coordinated hospital system (see page 114). Michigan was one of the first to be ready with a proposed program under the Hospital Survey and Construction Act. Map shows how hospitals of various sizes might be tied together in the coordinated system

TYPE PLANS FOR THE GENERAL HOSPITAL

Some two score years of research come to fruition in the hospital type plans presented in this Building Types Study. As far as architects are concerned, the U. S. Public Health Service has, in recent years, developed a kind of planning research which architects have long been asking for. Here is a group of architects and engineers doing field research, consultation with medical and public health authorities, sociologists, with equipment specialists and material manufacturers, and working all their findings down into specific planning suggestions for architects.

While all of this study is aimed at the objective of better hospitals for the nation, for the architect it has had a by-product — the selling of the services of the individual architect. Hospital boards and medical personnel have gained a new appreciation of the importance of sound planning, and of higher standards of plan and construction. Marshall Shaffer, chief architect, and his staff have always insisted that their suggestions should never be taken too literally in any given project; there must always be a private architect to be the final arbiter; anything of the order of a "plan service" would be unthinkable in hospital design.

In a sense the "hospital type plans" here presented complete the first package on the design of general hospitals. For some time Architectural Record has been publishing interim reports: 1. Public Health Centers, July, 1942; 2. "Hospitals" (the coordinated hospital service plan illustrated with some type plans), August, 1945; 3. "Elements of the General Hospital" (detailed room layouts for all departments of the general hospital) June, July, August, 1946. This present study completes the type plans, which put the departments together in integrated plans for the types and sizes of general hospitals which would have a place in the overall plan for hospital construction.

Included here are: two small community clinics, one with an 8-bed nursing unit, the other with a 10-bed unit (these are "outposts" of the coordinated plan, are not considered true hospitals); and general hospitals of 30, 40, 75, 100, 150 beds. Two others — general hospitals of 50 and 200 beds — are included in the list of suggestions; these remain as published in the August, 1945, study in Architectural Record.

Release of the type plans is timed for the beginning of the construction phase of the vast hospital program made possible by the Hospital Survey and Construction Act (Public Law 725), passed by Congress in August 1946. This Act authorizes federal aid to states totaling $3,000,000 for surveys of hospital needs, and $375,000,000 for construction over a five-year period. Since the direct aid to states amounts to one-third of the cost, these funds will make the hospital program total $1,125,000,000.

Already most of the states have set up the required organizations to survey their needs, plan a state-wide program of new construction and handle contracts for hospital projects. Many of the programs are started. Text on the following pages deals with state programs and architects' functions in state and local communities.

The hospital plans conform with the coordinated hospital system developed by the U. S. Public Health Service (chart, opposite page; for detail see page 114). In brief this plan calls for constant exchange between hospitals of information, training, personnel, and for the referral of patients from one unit to another as their needs demand. Large and small hospitals would be knit together into an integrated operating system. New buildings would be planned and equipped according to their place in the scheme, not as isolated competitors.

Rarely has so comprehensive a program been favored with such complete cooperation as this one has engendered. The whole vision, including such coordination as mentioned above, far from being a sudden bureaucratic concoction, has developed over a period of several years. Since before the legislation was formulated, every interested group has had its say, from health authorities to nurses, from hospital trustees to farm organizations, from architects to labor unions, from doctors to kitchen help. In administering the construction program, the Health Service is guided by a federal advisory council; it has eight members, four "experts" and four representatives of "consumer" groups. Various sub-committees serve the Council and the Surgeon General, including a technical one headed by James R. Edmunds, A.I.A., and three other architects.

It is important to remember, however, that while the law requires that federal funds be handled under federal supervision, the programming and planning and construction of hospitals is handled by the communities themselves. It is at this level that the architect must exercise his initiative, to the end that the whole plan will realize its objectives of better hospital and health facilities, particularly for the rural areas.

U. S. Public Health Service Photo

THE PRESENT OPPORTUNITY

By Thomas Parran, M.D.

Surgeon General, U. S. Public Health Service

TWO years ago, when the first plans in this series appeared, I remarked on the great opportunity which lies ahead in the field of public health. More than ever before, the American people are well-informed in health matters and vocal in their demand for better health services. At the same time, our scientific and technological achievements in wartime have given us new confidence in our ability to meet these demands.

On the other hand, I noted with concern that the increasing complexity of medical practice is having unfortunate consequences for our rural population. The old-fashioned country doctor is vanishing; the young physician, trained to depend on modern medical facilities, is not replacing him in areas where those facilities are lacking.

The situation remains the same today. But in the meantime, the nation has taken a great step toward the fulfillment of its health needs. The Hill-Burton Bill — now the Hospital Survey and Construction Act — has become law, and has set in motion a nation-wide program to provide health facilities for all citizens, according to their need.

Under this program, the states, with federal assistance, are surveying their needs and developing long-range plans for construction of hospitals and health centers. If the program is fully realized, the next four years will see the expenditure of $1,125,000,000 for construction, one-third of it from federal funds. Priority is to be given to areas having the greatest need — especially rural areas and those with low per capita income.

Nevertheless, this program will provide only a partial answer to our problems. It will be many years before our basic needs for health facilities can be fully met. We are further hampered by a shortage of physicians, of nurses, and other personnel who cannot be trained overnight. We cannot, in these circumstances, afford any duplication of facilities, any inefficiency in the organization of medical services. We must plan soundly for the maximum use of both personnel and facilities.

The concept of the coordinated system, which is illustrated herein, is thus doubly important at the present time. This concept, while new to most areas of the country, has been successfully applied in varying forms in a number of instances. It will doubtless be some time before the interrelationships can be fully worked out in many areas. It is nevertheless important that our future hospital construction should lay down a pattern within which these relationships can develop logically and efficiently.

Such patterns are being laid down in the State Plans now being formulated under the Hospital Survey and Construction Act. It is hoped that all concerned with planning and construction of hospitals will work with their State planning agencies, so that every institution will be designed to fit the pattern being established for the area it will serve.

THE ARCHITECT'S RESPONSIBILITY

By Henry H. Saylor, for Douglas William Orr, President, American Institute of Architects

ONE of the most ambitious programs this country has ever tackled, leading to a rational distribution of our facilities for hospitalization and public health, is now well under way. Architects in private practice will do all the work. Advising the Surgeon General from the inception of the Hospital Survey and Construction Act is James R. Edmunds, Jr., A.I.A. as Chairman of the Technical Committee of the Federal Hospital Council.

It is not going to be easy to turn this vision into achievement. Already there are formidable obstacles rising to challenge our progress. One of them is the fact that we can design and build hospitals faster than we can staff them — walls of brick and the equipment that goes within them are put in place more quickly than we can educate and train the doctors and nurses to make these plants function. Another obstacle, of course, has been mounting building and operating costs.

On the bright side is the record of accomplishments. Most states have architectural representation on the State Hospital Advisory Council. Many states have arranged for state-wide meetings with their registered architects in order to present to the profession the State Hospital Plan. Still others have taken advantage of their opportunity to secure professional guidance from the State A.I.A. Chapters and Associations in formulating the technical and construction phases of the State Plan. The Surgeon General has accomplished this at the federal level by the Technical Committee of the Federal Hospital Council referred to above. It has been said again and again, but it seems necessary to repeat it here, that this is a program for the individual states. Theirs is the responsibility. The federal assistance is available for those states which are awake to their needs and to this opportunity. The first requisite is a State Hospital Agency with an adequate technical staff empowered to handle the job — and the architects of the state must realize that it is incumbent upon them to become familiar with the State Hospital Plan in order to be in a position to properly serve the people of their state.

The resolution adopted by the Grand Rapids Convention of The American Institute of Architects is still fresh in our minds. It asked (1) that the profession be kept fully advised of the progress of this program; (2) that an architect be placed on each State Advisory Council; (3) that technical assistance be extended by Chapters and State Associations to the State Agencies administering this program; and (4) that all Chapters encourage an active educational program for their members on the various phases of hospital design, seeking also the co-operation of colleges of architecture in this endeavor.

Meanwhile, since Grand Rapids, the seminars of hospital design have become a widespread activity — with the A.I.A. State Chapters and Associations of Michigan, Mississippi, Pennsylvania, California, and Texas pointing the way. And it is well that the profession is conscious of its need for the most advanced thinking in the hospital field. Someone has said that we of today are setting the pattern for the hospitals of the next quarter century here in the United States. And they must be good!

At this stage of the Hospital Program, every architect should know that there is a national clearing house for technical information on hospital and health center design; whether or not the project in which he is interested is in the present national program, he would do well to make a note of its name and address: Division of Hospital Facilities, United States Public Health Service, Washington, D.C. Its Medical Director is Dr. V. M. Hoge. It does *not* design hospitals; what it does is to pass on to the architect, at his request, the fruits of the latest thinking by its personnel of specialists in hospital design, hospital administration, nursing, medicine, and equipment. And at the head of the Office of Technical Services of the Division is an A.I.A. architect, Marshall Shaffer.

THE HOSPITALS' PLACE IN THE PROGRAM

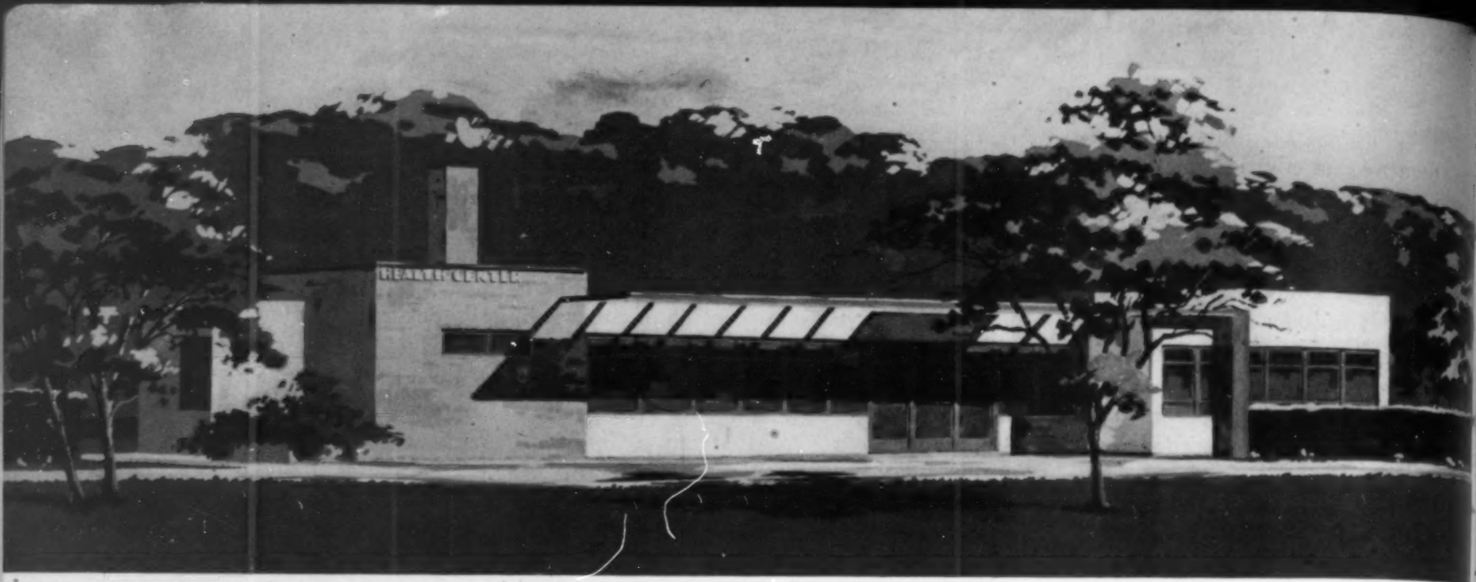
By George Bugbee, Executive Director, American Hospital Association

A HOSPITAL'S capacity to serve its community depends in no small degree upon careful functional planning and sound construction. Funds contributed in good faith by the community too frequently are wasted in poorly planned and poorly constructed hospital plants. The losses incurred through poor hospital construction, great as they may be, cannot be calculated in dollars and cents alone. The most important loss, which continues over the years, is in quantity and quality of service that cannot be delivered although paid for.

For these reasons the American Hospital Association long has had a major interest in hospital architecture. This is why it has urged and encouraged architects to specialize in hospital work. While hospital construction in the past has been but a small part of the total building industry, the backlog of need is now tremendous. The Hospital Survey and Construction Act will help to provide $1,125,000,000 worth of hospitals and other health facilities in the next five years. Even this large sum, however, will meet barely 13 per cent of the need as disclosed by state surveys.

A program of this magnitude — of such social and economic significance — must employ the best in scientific hospital planning and design. The accompanying section by the Division of Hospital Facilities, U. S. Public Health Service, is an important contribution to the science of hospital planning. This division also administers the Hospital Survey and Construction Act.

While the described units are built around the theme of a coordinated hospital system, each facility is physically complete in itself. It is hoped, however, that the designs suggested will not be followed blindly by the architect of the community hospital. While basic principles are fairly constant, details are highly variable. Requirements of the medical staff, the comparative resources of the community, the climate, the site conditions, in fact a broad category of variables demand that each hospital be designed with its own individuality.


HEALTH CENTER

Stanley

8 BEDS

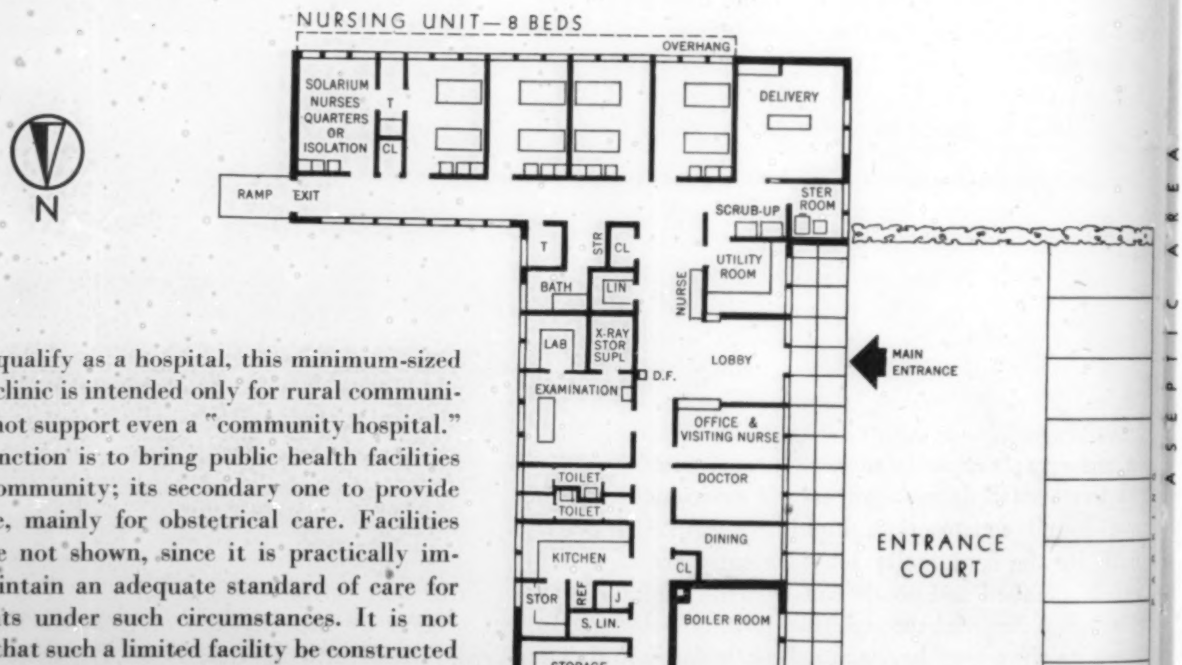
COMMUNITY CLINIC WITH NURSING UNIT

An Outpost for the Coordinated Hospital System, for Rural Areas

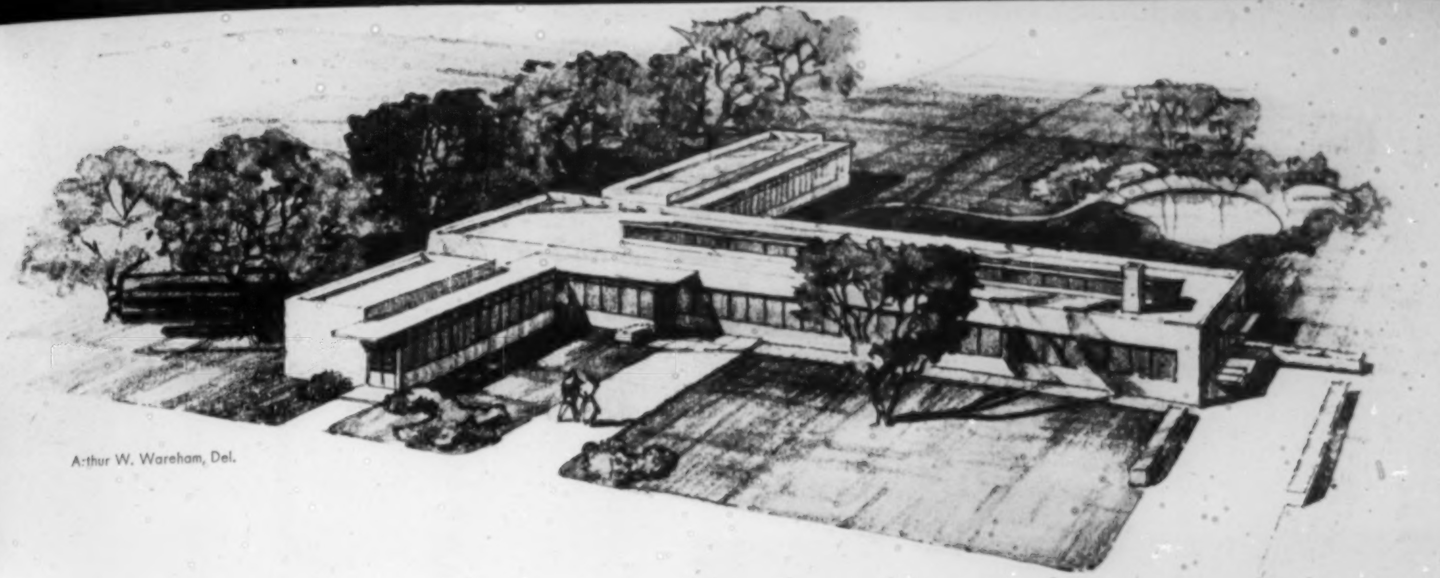
Too small to qualify as a hospital, this minimum-sized community clinic is intended only for rural communities which cannot support even a "community hospital." Its primary function is to bring public health facilities to the small community; its secondary one to provide nursing service, mainly for obstetrical care. Facilities for surgery are not shown, since it is practically impossible to maintain an adequate standard of care for surgical patients under such circumstances. It is not recommended that such a limited facility be constructed in any community except in unusual circumstances.

Such a unit as this would operate as an outpost in the coordinated health service scheme, bringing either resident or visiting physicians and technicians to the locality, handling minor cases and referring others to "community," "district," or "base" hospitals.

The health center wing provides limited facilities for public health work. The examination room would serve for various clinics, perhaps scheduled to coordinate with its use by private physicians. Laboratory facilities also would serve for multiple use, by clinician, epidemiologist, nurse, and sanitary engineer.


NURSING UNIT—8 BEDS
OVERHANG
SOLARIUM NURSES QUARTERS OR ISOLATION
T
CL
DELIVERY
N
RAMP
EXIT
SCRUB-UP
STER ROOM
T
STR
CL
BATH
LIN
UTILITY ROOM
NURSE
LAB
X-RAY STOR SUPL
LOBBY
MAIN ENTRANCE
D.F.
EXAMINATION
OFFICE & VISITING NURSE
TOILET
TOILET
DOCTOR
DINING
ENTRANCE COURT
KITCHEN
CL
STOR
REF
J
S. LIN.
BOILER ROOM
STORAGE
SERVICE ENTRANCE
GRAPHIC SCALE
0 4 8 12 16 FT.

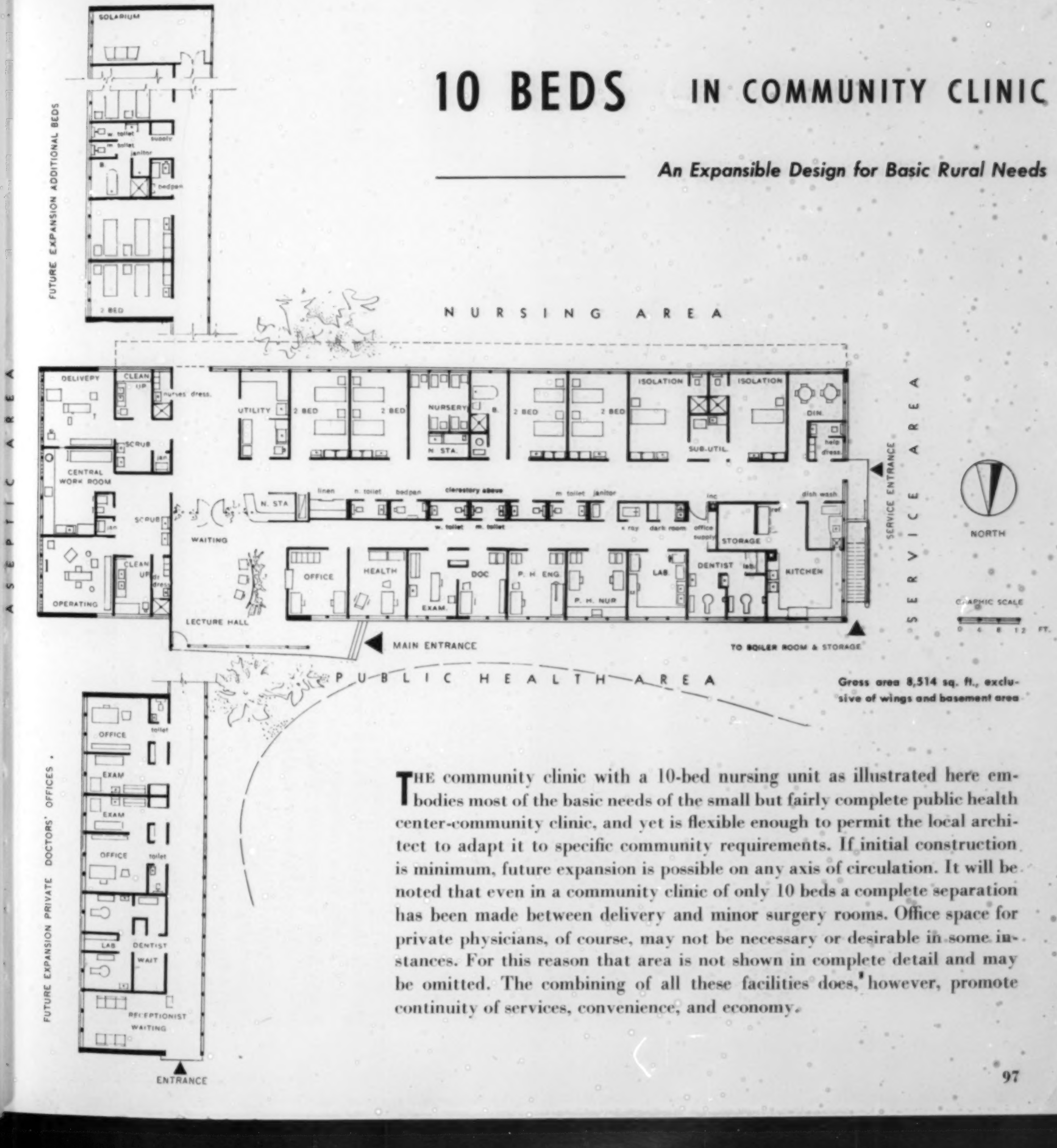
TOTAL GROSS AREA 4,391 SQ. FT.



Arthur W. Wareham, Del.

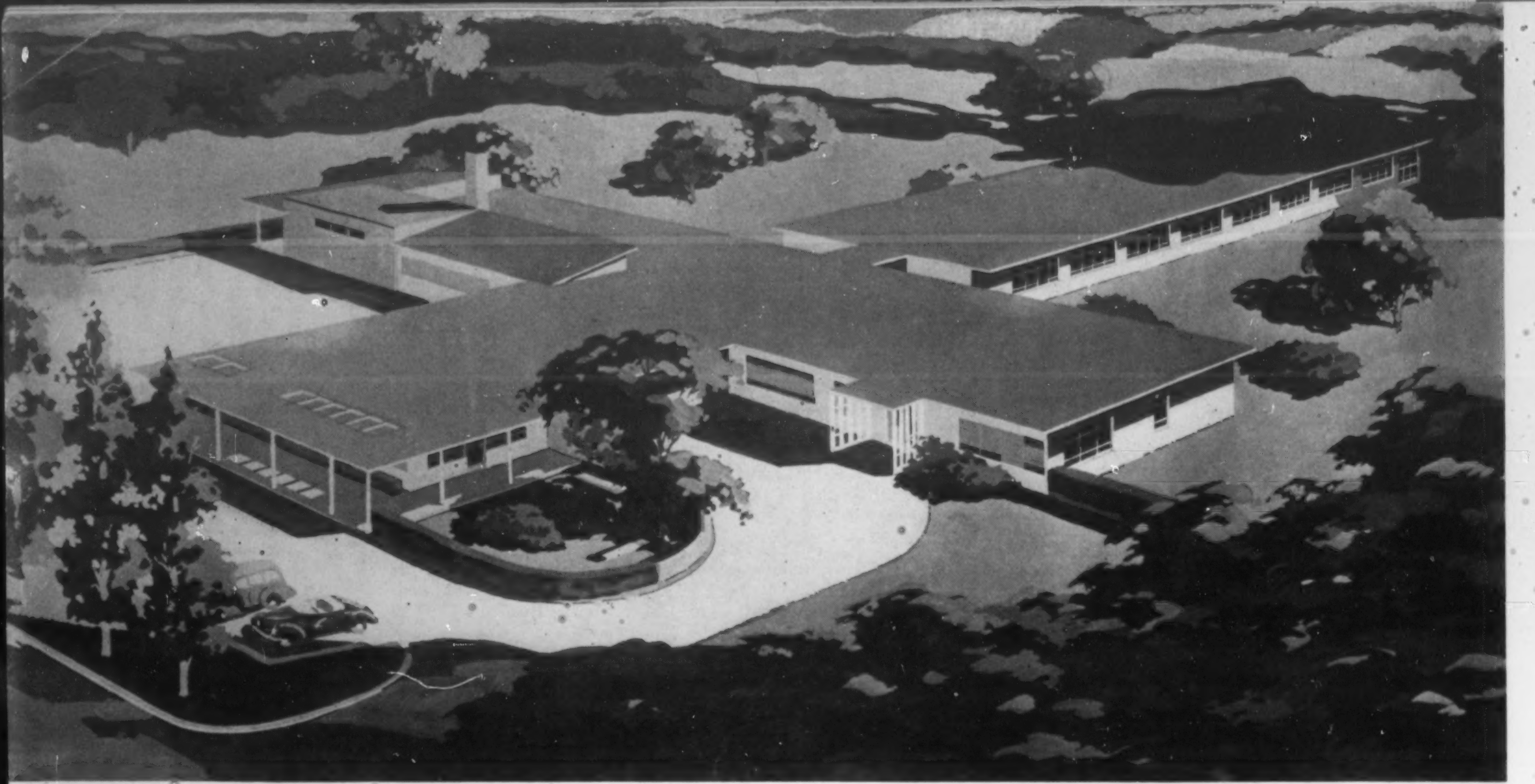
10 BEDS IN COMMUNITY CLINIC

An Expansible Design for Basic Rural Needs


FUTURE EXPANSION ADDITIONAL BEDS
SOLARIUM
w. toilet
m. toilet
supply
janitor
B.
bedpan
2 BED
NURSING AREA
ASEPTIC AREA
DELIVERY
CLEAN UP
nurses' dress.
SCRUB
jan
CENTRAL WORK ROOM
SCRUB
jan
OPERATING
CLEAN UP
dr. dress
UTILITY
2 BED
2 BED
NURSERY
B.
N. STA.
2 BED
2 BED
ISOLATION
ISOLATION
SUB-UTIL.
DIN.
help dress.
N. STA
linen
n. toilet
bedpan
clerestory above
w. toilet
m. toilet
m. toilet
janitor
inc
dish wash
x ray
dark room
office supply
STORAGE
ref
WAITING
LECTURE HALL
OFFICE
HEALTH
EXAM.
DOC
P. H. ENG.
P. H. NUR
LAB.
DENTIST
lab.
KITCHEN
SERVICE ENTRANCE
SERVICE AREA
NORTH
GRAPHIC SCALE
0 4 8 12 FT.
MAIN ENTRANCE
TO BOILER ROOM & STORAGE
PUBLIC HEALTH AREA
FUTURE EXPANSION PRIVATE DOCTORS' OFFICES.
OFFICE
toilet
EXAM
EXAM
OFFICE
toilet
LAB
DENTIST
WAIT
RECEPTIONIST
WAITING
ENTRANCE

Gross area 8,514 sq. ft., exclusive of wings and basement area

The community clinic with a 10-bed nursing unit as illustrated here embodies most of the basic needs of the small but fairly complete public health center-community clinic, and yet is flexible enough to permit the local architect to adapt it to specific community requirements. If initial construction is minimum, future expansion is possible on any axis of circulation. It will be noted that even in a community clinic of only 10 beds a complete separation has been made between delivery and minor surgery rooms. Office space for private physicians, of course, may not be necessary or desirable in some instances. For this reason that area is not shown in complete detail and may be omitted. The combining of all these facilities does, however, promote continuity of services, convenience, and economy.



*Stanley Reese, Del.

30 BEDS

HOSPITAL AND HEALTH CENTER

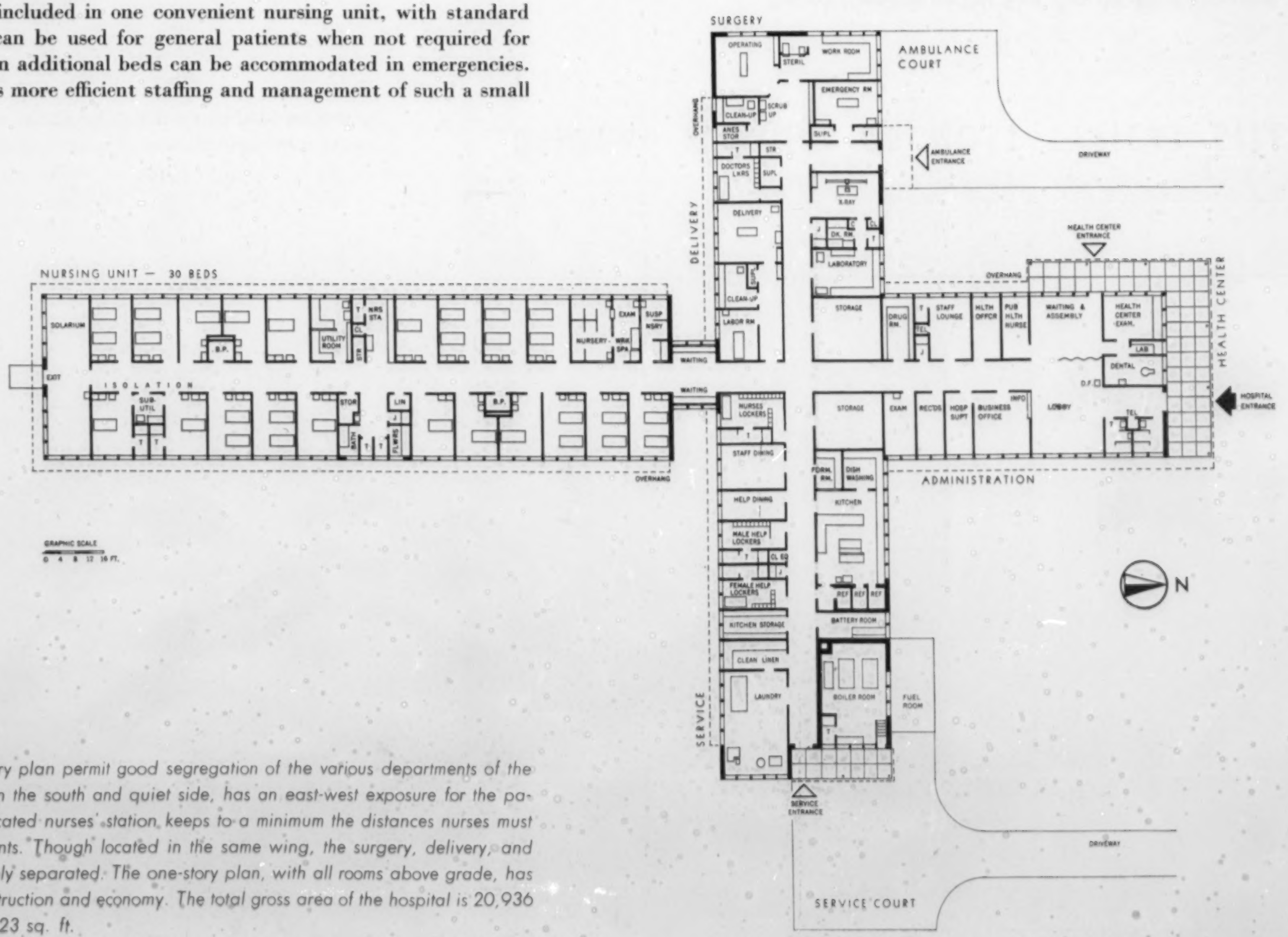
Too Small for Economical Operation, This One Is Justifiable Only in Small Remote Communities

THIS plan has been developed as an example of the smallest practicable general hospital. Normally, a community which cannot support a hospital of 40 to 50 beds should build a community clinic, and depend on neighboring areas for in-patient care. However, a 30-bed institution may be desirable if the area is far removed from other general hospitals. With reduced staff, equipment, and bed capacity, this hospital is nevertheless designed to provide all of the services expected of the 50-bed or larger community hospital in the coordinated hospital system. General medical, uncomplicated obstetrical, and minor and emergency surgical cases can be adequately cared for; specialized diagnostic services are obtained from the district hospital, to which patients are referred when specialized care is required.

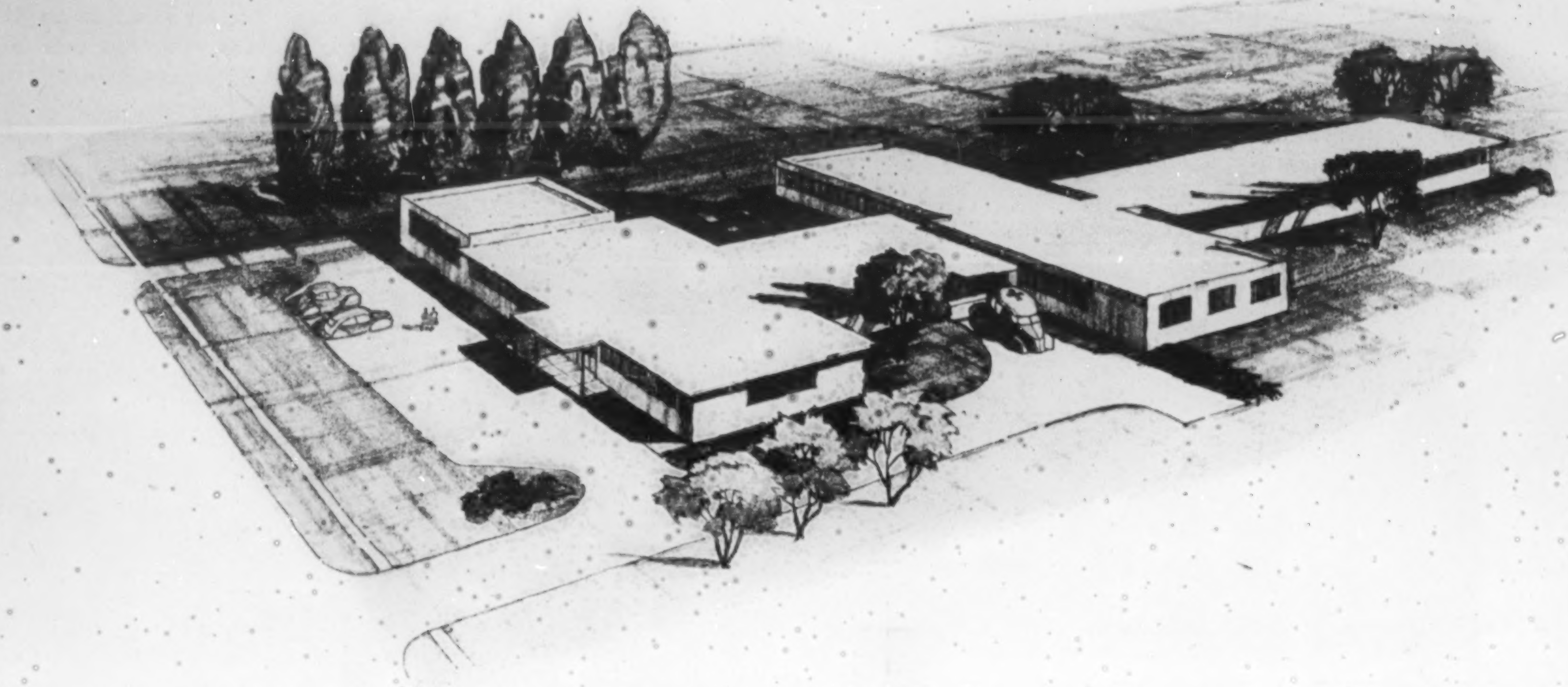
Out-patient and public health facilities are also included in the plan, providing a well-rounded community service. Since the X-ray, laboratory, pharmacy, and dental facilities are shared with the in-patient service, the costs of equipment and operation are kept to a minimum.

Careful analysis of the services to be furnished is especially important in planning a hospital of this size, where economy is paramount. For example, if adequate laundry service is available in the community, it may be more economical to omit this department in a hospital of this size.

All of the 30 beds are included in one convenient nursing unit, with standard isolation facilities which can be used for general patients when not required for communicable disease. Ten additional beds can be accommodated in emergencies. The one-floor plan permits more efficient staffing and management of such a small institution.


SURGERY
OPERATING
STERIL
WORK ROOM
AMBULANCE COURT
EMERGENCY RM
CLEAN-UP
SCRUB UP
ANES STOR
SUPL
T
AMBULANCE ENTRANCE
DRIVEWAY
STR
DOCTORS LKRS
SUPL
X-RAY
DELIVERY
DK. RM
CL
LABORATORY
CLEAN-UP
SUPL
LABOR RM
STORAGE
HEALTH CENTER ENTRANCE
OVERHANG
DRUG RM.
TEL
J
STAFF LOUNGE
HLTH OFFCR
PUB HLTH NURSE
WAITING & ASSEMBLY
HEALTH CENTER EXAM.
LAB
DENTAL
D.F.
HEALTH CENTER
HOSPITAL ENTRANCE
NURSING UNIT — 30 BEDS
SOLARIUM
B.P.
UTILITY ROOM
NRS STA
STR
NURSERY
WRK SPA
EXAM
SUSP NSRY
WAITING
EXIT
ISOLATION
SUB-UTIL
STOR
BATH
LIN
FLWRS
OVERHANG
GRAPHIC SCALE
0 4 8 12 16 FT.
WAITING
NURSES LOCKERS
STAFF DINING
HELP DINING
MALE HELP LOCKERS
CL EQ
FEMALE HELP LOCKERS
KITCHEN STORAGE
CLEAN LINEN
LAUNDRY
SERVICE
STORAGE
EXAM
REC'DS
HOSP SUPT
BUSINESS OFFICE
INFO
LOBBY
TEL
ADMINISTRATION
FORM. RM.
DISH WASHING
KITCHEN
REF
BATTERY ROOM
BOILER ROOM
FUEL ROOM
N
SERVICE ENTRANCE
DRIVEWAY
SERVICE COURT

The four wings of this one-story plan permit good segregation of the various departments of the hospital. The nursing wing, on the south and quiet side, has an east-west exposure for the patients' rooms. The centrally located nurses' station keeps to a minimum the distances nurses must travel in attending their patients. Though located in the same wing, the surgery, delivery, and emergency suites are completely separated. The one-story plan, with all rooms above grade, has the advantages of simple construction and economy. The total gross area of the hospital is 20,936 sq. ft.; gross area per bed, 523 sq. ft.



Arthur W. Wareham, Del.

40 BEDS

GENERAL HOSPITAL OF MOST TYPICAL SIZE

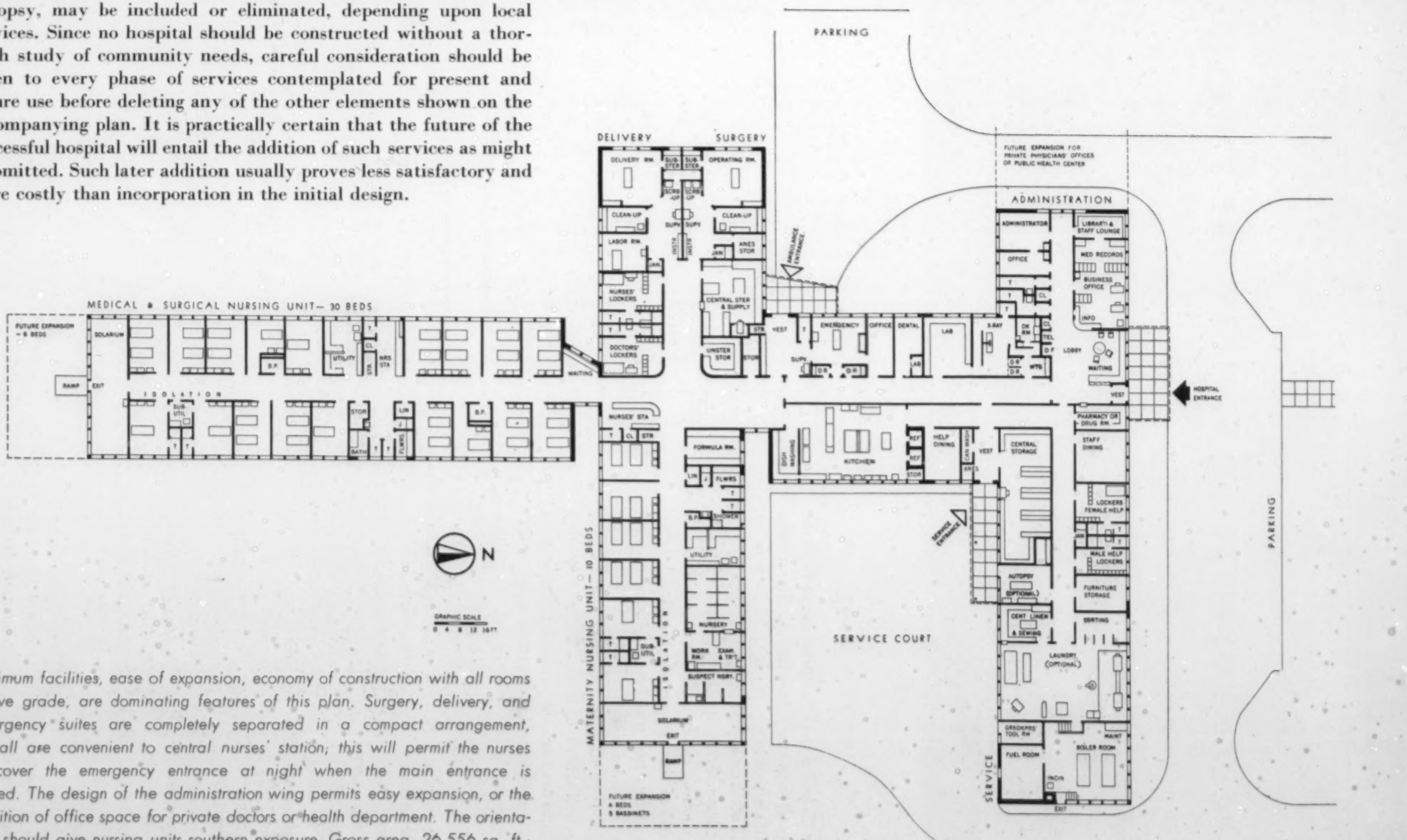
Though Hospitals of This Size Are the Most Frequent,

Expansibility to 50 or 60 Beds is Essential

The history of most hospitals reveals that eventually some expansion becomes necessary. Hospitals of the 40–60 bed size constitute the largest group of such facilities in the United States. The plan illustrated was designed primarily to incorporate the basic features of the good hospital in this general group and yet hold to a minimum the design for construction and services. Such design will permit future expansion in all directions without the necessity of complete remodeling in order to provide full central services.

Some modification of this type of plan will probably be most frequently constructed in the initial phase of the National Hospital Program. It is this size institution upon which, in large measure, will depend the success of the program in bringing adequate hospital services to the small community. It provides facilities for the local physician to render the highest type of patient care consistent with the general economic level of the region.

Some of the facilities shown as optional, such as the laundry and autopsy, may be included or eliminated, depending upon local services. Since no hospital should be constructed without a thorough study of community needs, careful consideration should be given to every phase of services contemplated for present and future use before deleting any of the other elements shown on the accompanying plan. It is practically certain that the future of the successful hospital will entail the addition of such services as might be omitted. Such later addition usually proves less satisfactory and more costly than incorporation in the initial design.


PARKING
DELIVERY
SURGERY
DELIVERY RM.
SUB-STER
SUB-STER
OPERATING RM.
SCRB-UP
SCRB-UP
CLEAN-UP
SUPV
SUPV
CLEAN-UP
LABOR RM.
INSTR
INSTR
JAN
ANES STOR
JAN
NURSES' LOCKERS
CENTRAL STER & SUPPLY
DOCTORS' LOCKERS
UNSTER STOR
STOR
STR
WAITING
AMBULANCE ENTRANCE
FUTURE EXPANSION FOR PRIVATE PHYSICIANS' OFFICES OR PUBLIC HEALTH CENTER
ADMINISTRATION
ADMINISTRATOR
LIBRARY & STAFF LOUNGE
MED RECORDS
OFFICE
BUSINESS OFFICE
CL
INFO
X-RAY
DK RM
TEL
D F
LOBBY
WAITING
DR
DR
WTG
VEST
HOSPITAL ENTRANCE
VEST
EMERGENCY
OFFICE
DENTAL
LAB
LAB
SUPV.
DR
DR
MEDICAL & SURGICAL NURSING UNIT— 30 BEDS
FUTURE EXPANSION – 6 BEDS
SOLARIUM
B.P.
UTILITY
CL
STR
NRS STA
RAMP
EXIT
ISOLATION
SUB-UTIL
STOR
BATH
LIN
J
FLWRS
B.P.
NURSES' STA
CL
STR
FORMULA RM.
LIN
J
FLWRS
B.P.
SHOWER
UTILITY
NURSERY
WORK RM.
EXAM. & TR'T.
SUSPECT NSRY.
SUB-UTIL
ISOLATION
SOLARIUM
EXIT
RAMP
MATERNITY NURSING UNIT— 10 BEDS
FUTURE EXPANSION 4 BEDS 5 BASSINETS
N
GRAPHIC SCALE
0 4 8 12 16FT
DISH WASHING
KITCHEN
REF
REF
STOR
HELP DINING
CAN WASH
ANES
VEST
CENTRAL STORAGE
PHARMACY OR DRUG RM.
STAFF DINING
LOCKERS FEMALE HELP
JAN
MALE HELP LOCKERS
FURNITURE STORAGE
SERVICE ENTRANCE
AUTOPSY (OPTIONAL)
CENT LINEN & SEWING
SORTING
LAUNDRY (OPTIONAL)
GRNDKPRS' TOOL RM
MAINT
FUEL ROOM
BOILER ROOM
INCIN
EXIT
SERVICE
SERVICE COURT
PARKING

Minimum facilities, ease of expansion, economy of construction with all rooms above grade, are dominating features of this plan. Surgery, delivery, and emergency suites are completely separated in a compact arrangement, yet all are convenient to central nurses' station; this will permit the nurses to cover the emergency entrance at night when the main entrance is closed. The design of the administration wing permits easy expansion, or the addition of office space for private doctors or health department. The orientation should give nursing units southern exposure. Gross area, 26,556 sq. ft.; 664 sq. ft. per bed

75 BEDS

GENERAL HOSPITAL OF TYPICAL ONE-STORY DESIGN

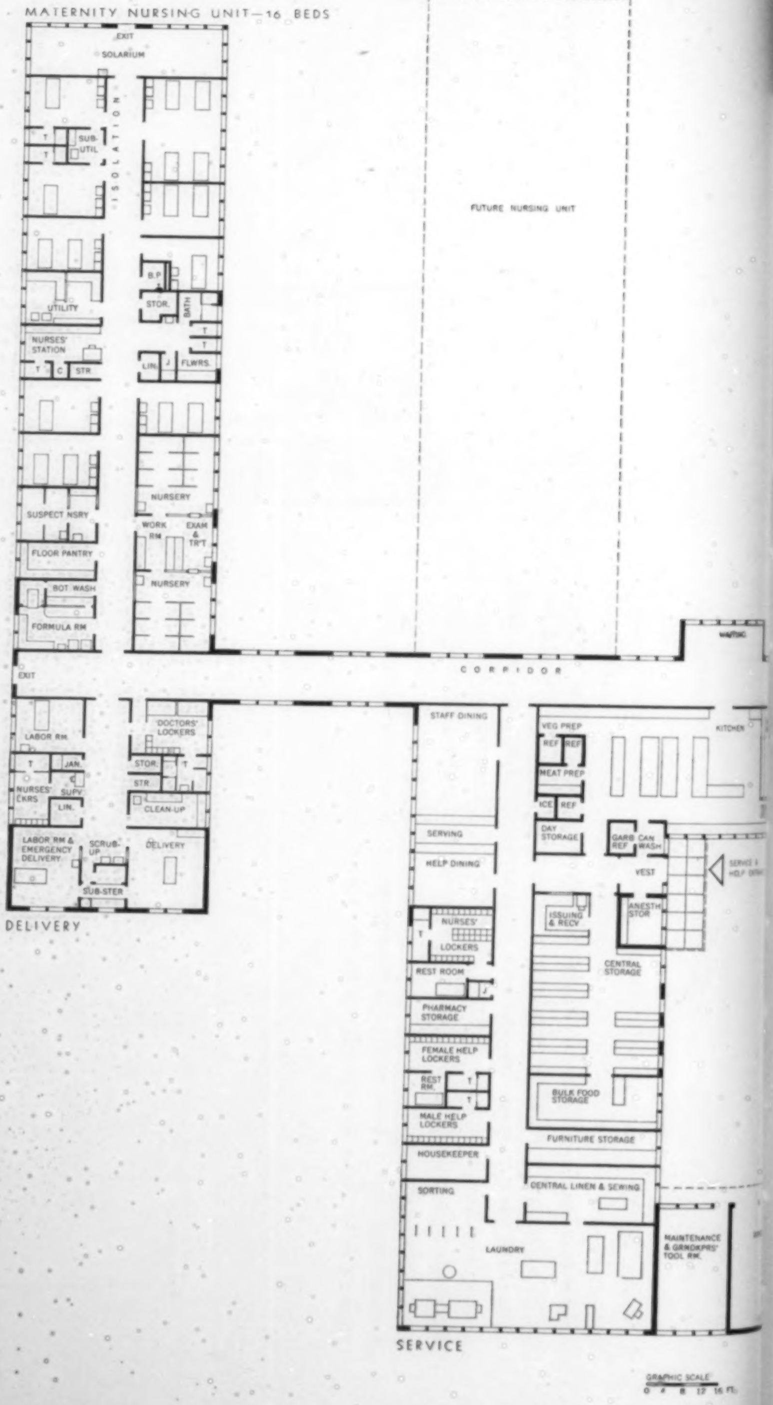
Recommended for Mild Climates and Open Sites

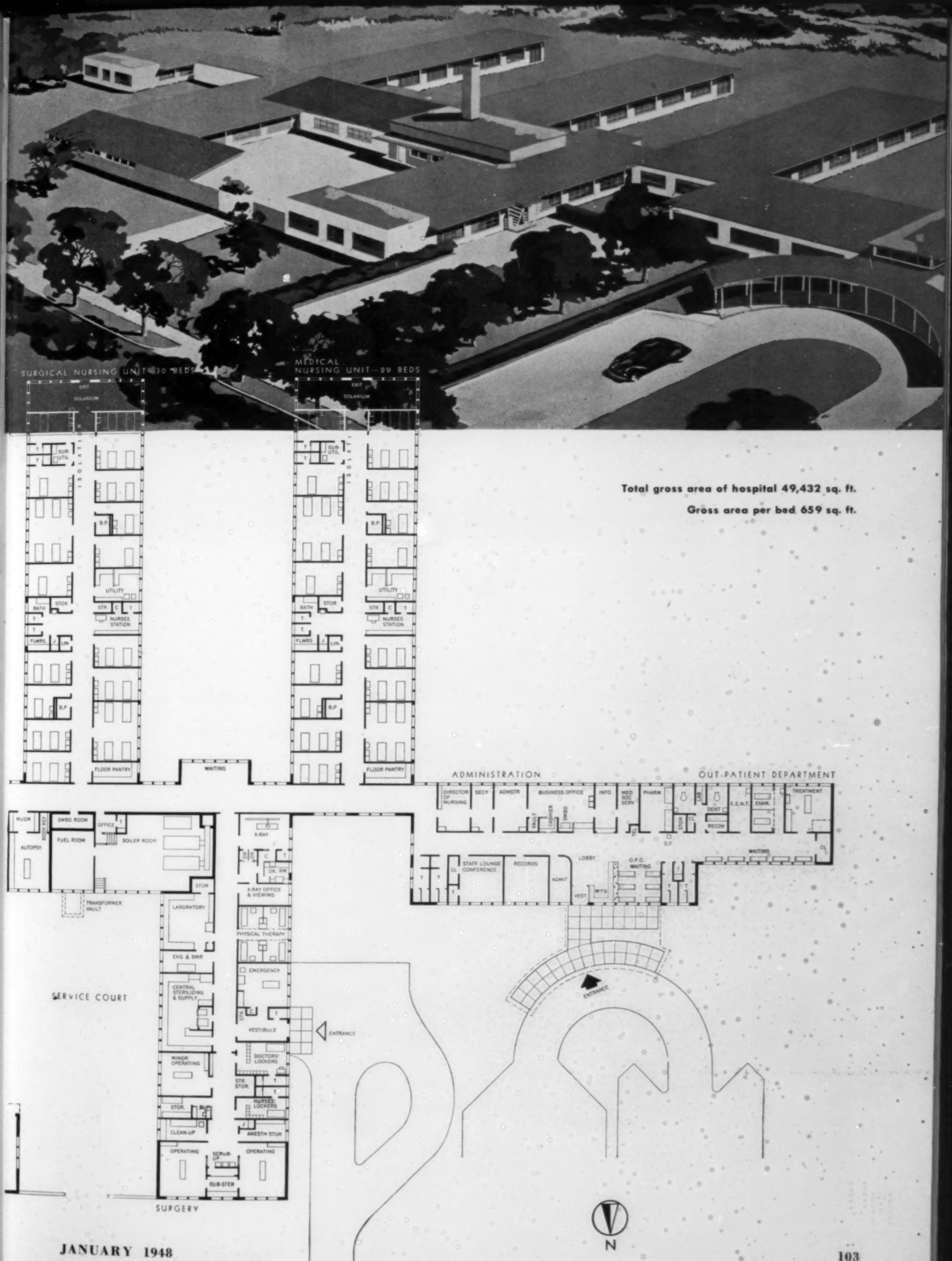
This 75-bed general hospital exemplifies the typical one-story institution. The design permits a maximum capacity of 99 beds by use of additional beds in single rooms and in the solaria. Some question has arisen as to the economy in planning for all services in a hospital of this size on one floor level. However, it has not proved to be too difficult from an administrative standpoint. This general type of plan has been found to be quite well suited to climates where heating and total area are not particular problems. It permits simple and economical construction and may easily be expanded by the addition of a fourth nursing unit. Experience has shown that there is much to recommend a one-story plan for hospitals up to 100 beds.

The inclusion of rather complete facilities for out-patient services is an optional feature to which every community should give serious consideration. The average hospital finds it almost imperative to provide out-patient services if it is to discharge fully its responsibility to the community. The arrangement of laboratory, X-ray and related services is such as to facilitate attention to both in-patients and out-patients.

Arrangement of complete nursing units in the various wings allows for better separation and control of types of patients, although a slightly larger staff may be necessary for adequate patient care.

It is the hospital of this size and larger which is in a position more nearly to render complete services to patients in most of the categories.


MATERNITY NURSING UNIT—16 BEDS
EXIT
SOLARIUM
ISOLATION
T
T
SUB-UTIL
B.P.
STOR.
BATH
T
T
UTILITY
NURSES' STATION
T
C
STR
LIN.
J
FLWRS.
NURSERY
SUSPECT NSRY
WORK RM
EXAM & TR'T
FLOOR PANTRY
BOT WASH
NURSERY
FORMULA RM
EXIT
LABOR RM.
DOCTORS' LOCKERS
T
JAN.
STOR.
T
NURSES' LKRS
SUPV
STR.
LIN.
CLEAN-UP
LABOR RM & EMERGENCY DELIVERY
SCRUB-UP
DELIVERY
SUB-STER
DELIVERY
FUTURE NURSING UNIT
WAITING
CORRIDOR
STAFF DINING
VEG PREP
KITCHEN
REF
REF
MEAT PREP
ICE
REF
DAY STORAGE
GARB REF
CAN WASH
SERVING
VEST
SERVICE & HELP ENTR.
HELP DINING
ISSUING & RECV
ANESTH STOR
NURSES' LOCKERS
T
REST ROOM
J
CENTRAL STORAGE
PHARMACY STORAGE
FEMALE HELP LOCKERS
REST RM.
T
T
BULK FOOD STORAGE
MALE HELP LOCKERS
FURNITURE STORAGE
HOUSEKEEPER
CENTRAL LINEN & SEWING
SORTING
LAUNDRY
MAINTENANCE & GRNDKPRS' TOOL RM.
SERVICE
GRAPHIC SCALE
0 4 8 12 16 FT.


SURGICAL NURSING UNIT—30 BEDS
MEDICAL NURSING UNIT—29 BEDS
EXIT
SOLARIUM
ISOLATION
SUB-UTIL
B.P.
UTILITY
BATH
STOR
STR.
NURSES STATION
FLWRS.
LIN.
FLOOR PANTRY
WAITING
ADMINISTRATION
OUT-PATIENT DEPARTMENT
DIRECTOR OF NURSING
SECY
ADMSTR
BUSINESS OFFICE
VAULT
CASHIER
SWBD
INFO
MED SOC SERV
TEL
PHARM
D.F.
STOR
CL
LAB
DENT
RECOV
E.E.N.T.
EXAM.
TREATMENT
WAITING
STAFF LOUNGE CONFERENCE
RECORDS
ADMIT
LOBBY
VEST
WTG
O.P.D. WAITING
ENTRANCE
MUSM
BODY REF
SWBD ROOM
OFFICE
AUTOPSY
FUEL ROOM
BOILER ROOM
TRANSFORMER VAULT
STOR
X-RAY
DR
DK. RM.
X-RAY OFFICE & VIEWING
LABORATORY
PHYSICAL THERAPY
EKG & BMR
EMERGENCY
CENTRAL STERILIZING & SUPPLY
VESTIBULE
ENTRANCE
SERVICE COURT
MINOR OPERATING
DOCTORS' LOCKERS
STR. STOR.
NURSES' LOCKERS
STOR.
SUPPLY
CLEAN-UP
ANESTH STOR
OPERATING
SCRUB-UP
OPERATING
SUB-STER
SURGERY
N

Total gross area of hospital 49,432 sq. ft.

Gross area per bed 659 sq. ft.

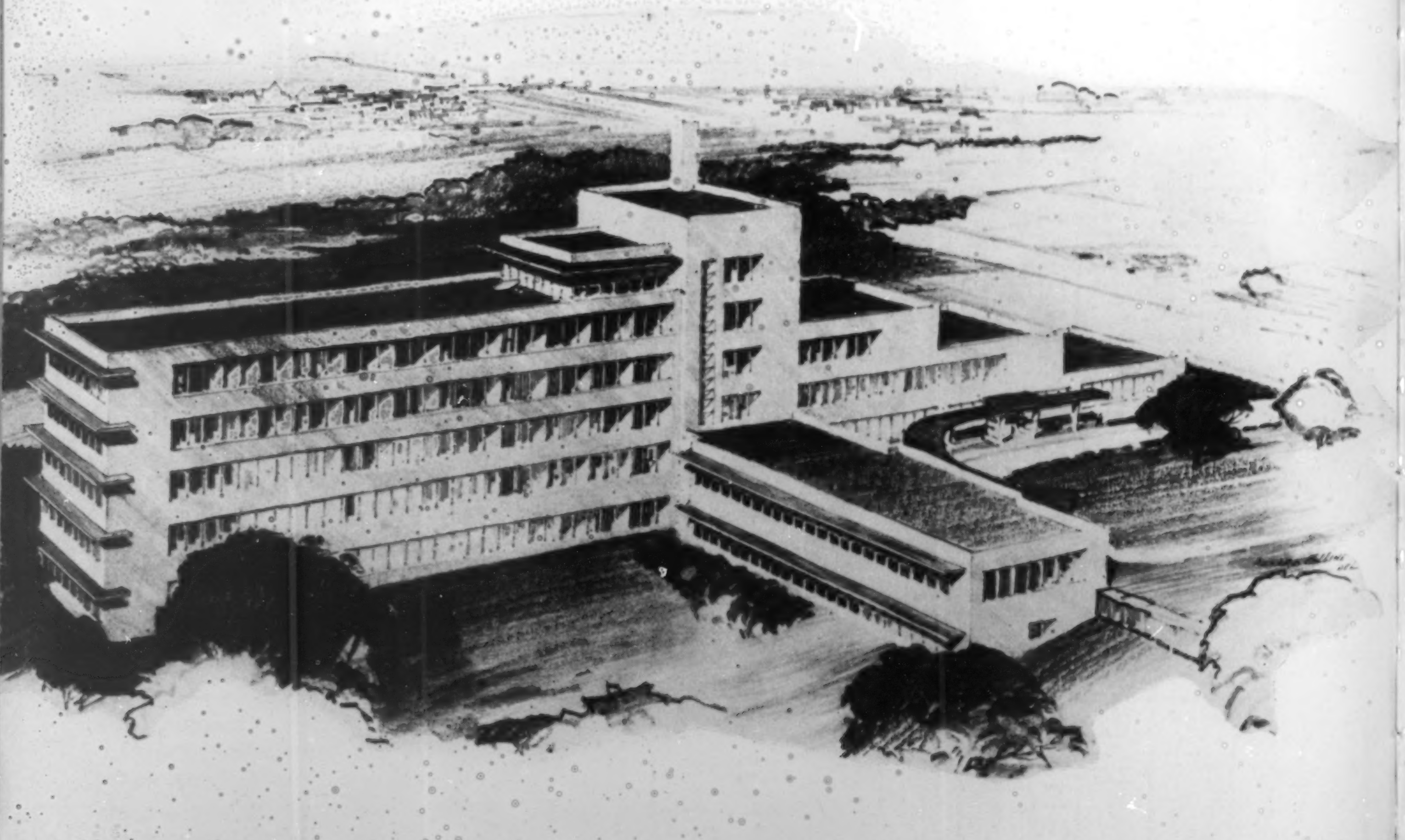
100-BED GENERAL HOSPITAL

A Typical Hospital of Average Size, for a "District" Hospital

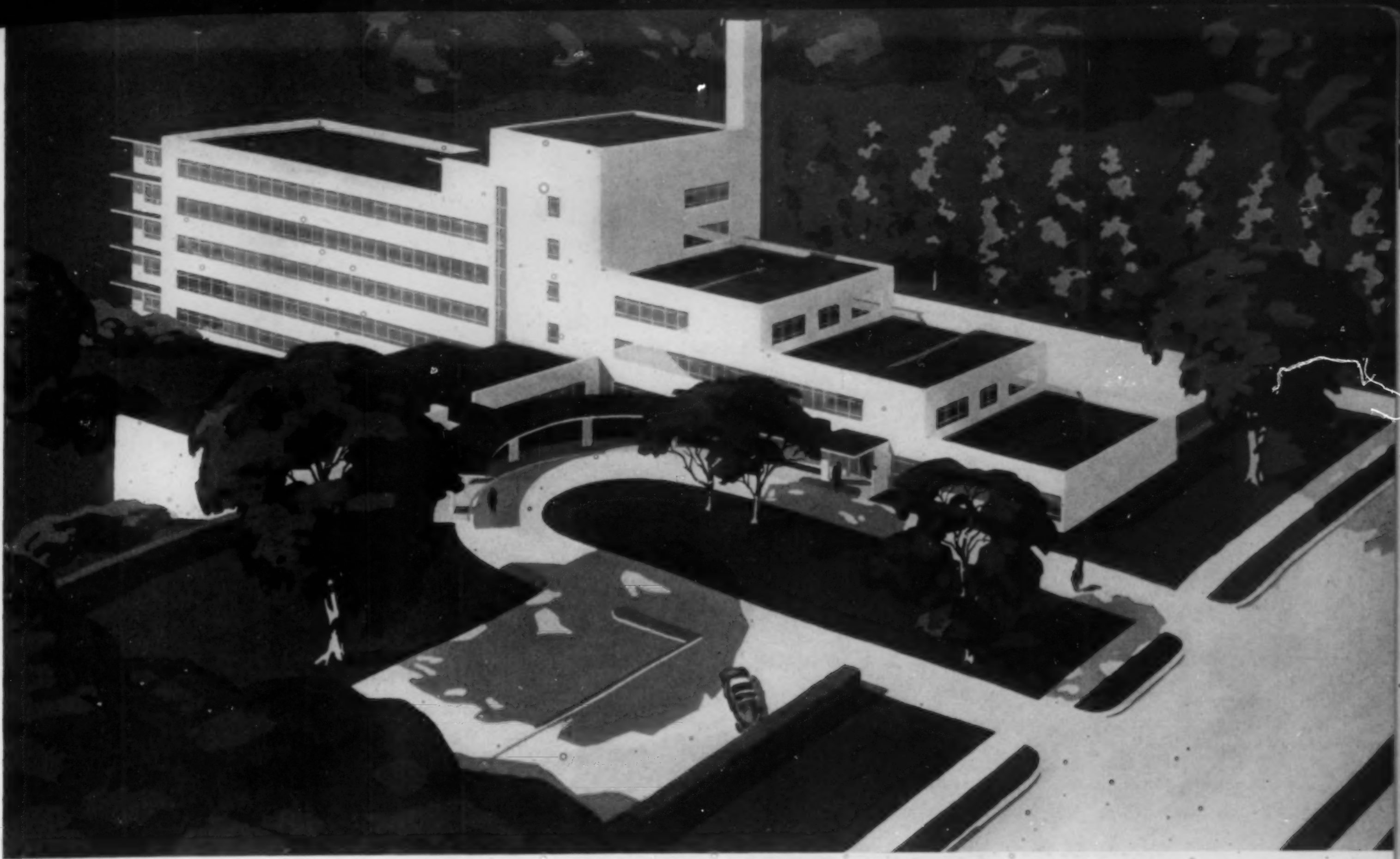
This multi-story 100-bed institution typifies the modern concept of the average size hospital in the United States. It is designed to provide practically all services which are expected of the good general hospital. It is this type of hospital in the typical smaller urban community which can set the pattern for standards of patient care necessary to improve the health of the nation insofar as hospital facilities can contribute to that movement.

Here too are provided facilities for an out-patient department without which the average community hospital falls short of the full extent of possible services.

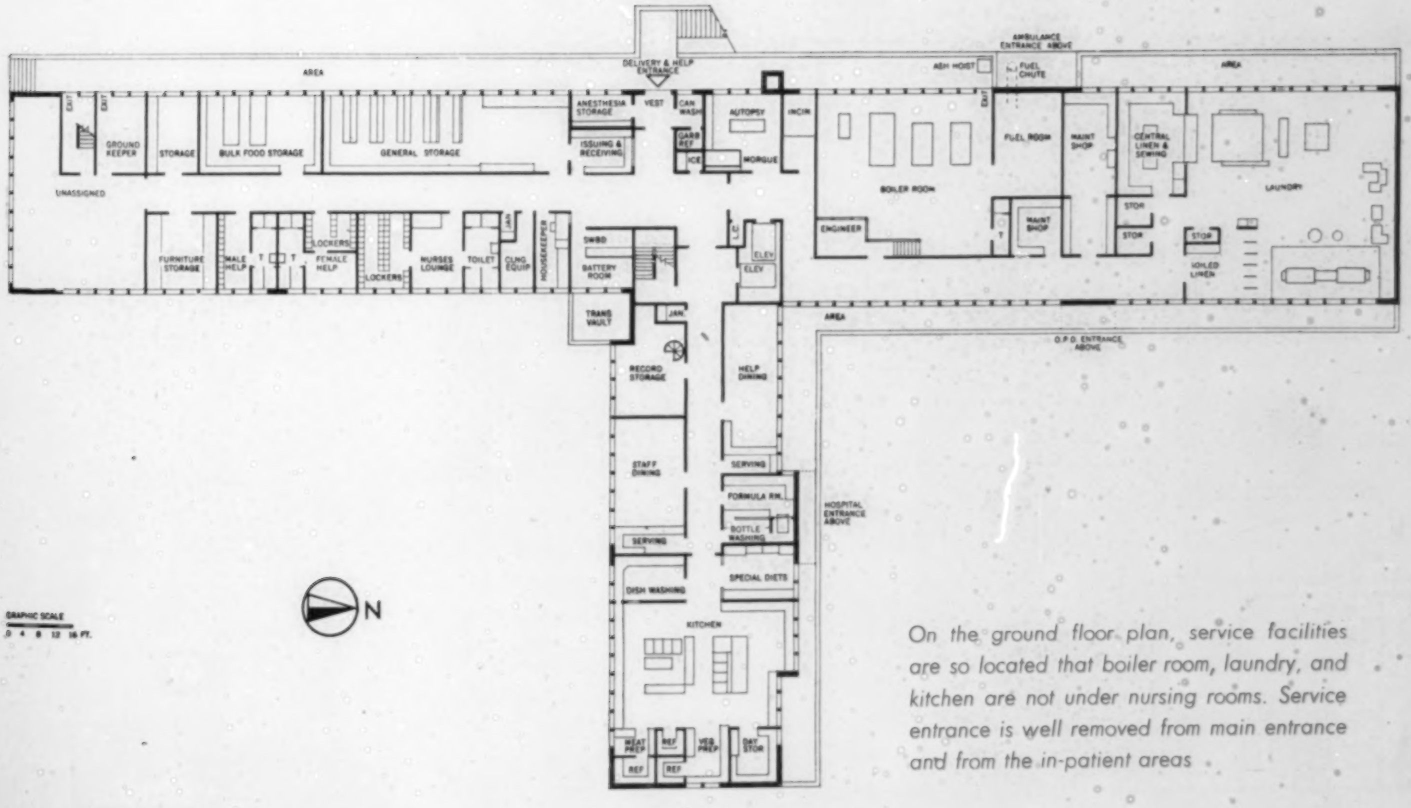
Services available in an institution of this size place it in a dominant role in the concept of an adequate coordinated hospital system. It is just such an institution to which the smaller rural hospital and practitioners on one hand and the large urban medical center on the other look as a common meeting ground for the promotion of a program to enhance the welfare of patients through continuity and for the correlation and practical application of consultation, medical education, and research.



Arthur W. Wareham, Del.

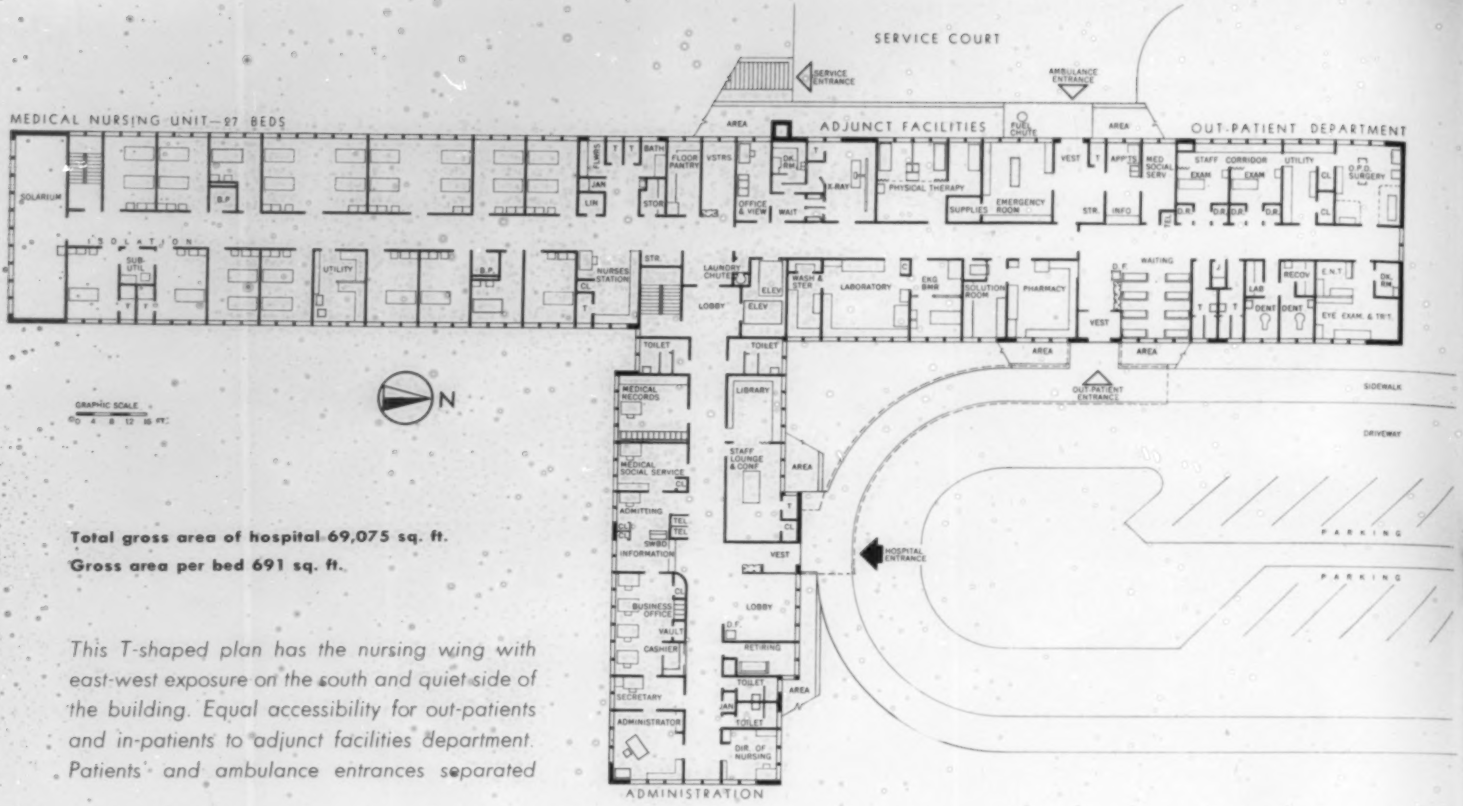


Stanley Reese, Del.


AREA
DELIVERY & HELP ENTRANCE
AMBULANCE ENTRANCE ABOVE
ASH HOIST
FUEL CHUTE
AREA
EXIT
EXIT
GROUND KEEPER
STORAGE
BULK FOOD STORAGE
GENERAL STORAGE
ANESTHESIA STORAGE
VEST
CAN WASH
AUTOPSY
INCIN
EXIT
FUEL ROOM
MAINT SHOP
CENTRAL LINEN & SEWING
LAUNDRY
ISSUING & RECEIVING
GARB REF
ICE
MORGUE
BOILER ROOM
UNASSIGNED
FURNITURE STORAGE
MALE HELP
T
T
LOCKERS
FEMALE HELP
LOCKERS
NURSES LOUNGE
TOILET
JAN
CLNG EQUIP
HOUSEKEEPER
SWBD
BATTERY ROOM
L.C.
ELEV
ELEV
ENGINEER
T
MAINT SHOP
STOR
STOR
STOR
SOILED LINEN
TRANS VAULT
JAN
AREA
O.P.D. ENTRANCE ABOVE
RECORD STORAGE
HELP DINING
STAFF DINING
SERVING
FORMULA RM.
HOSPITAL ENTRANCE ABOVE
SERVING
BOTTLE WASHING
SPECIAL DIETS
DISH WASHING
KITCHEN
MEAT PREP
REF
VEG PREP
DAY STOR
REF
REF
GRAPHIC SCALE
0 4 8 12 16 FT.
N

On the ground floor plan, service facilities are so located that boiler room, laundry, and kitchen are not under nursing rooms. Service entrance is well removed from main entrance and from the in-patient areas

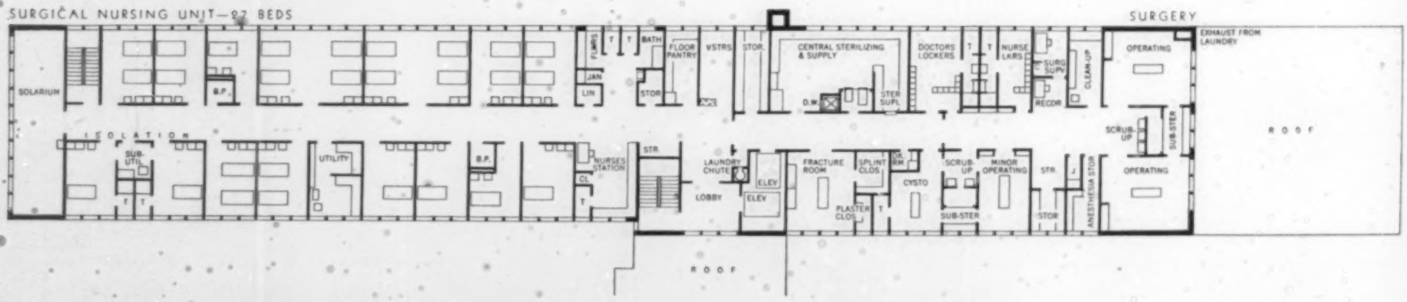
GROUND FLOOR PLAN


SERVICE COURT
SERVICE ENTRANCE
AMBULANCE ENTRANCE
MEDICAL NURSING UNIT—27 BEDS
ADJUNCT FACILITIES
OUT-PATIENT DEPARTMENT
SOLARIUM
ISOLATION
NURSES STATION
UTILITY
FLOOR PANTRY
LAUNDRY CHUTE
ELEV
LOBBY
X-RAY
PHYSICAL THERAPY
EMERGENCY ROOM
LABORATORY
EKG BMR
SOLUTION ROOM
PHARMACY
WAITING
STAFF CORRIDOR
EXAM
O.P.D. SURGERY
LAB
DENT
RECOV
E.N.T.
EYE EXAM & TR'T
AREA
MEDICAL RECORDS
MEDICAL SOCIAL SERVICE
ADMITTING
SWBD INFORMATION
BUSINESS OFFICE
VAULT
CASHIER
SECRETARY
ADMINISTRATOR
LIBRARY
STAFF LOUNGE & CONF
VEST
RETIRING
TOILET
DIR. OF NURSING
ADMINISTRATION
HOSPITAL ENTRANCE
OUT-PATIENT ENTRANCE
SIDEWALK
DRIVEWAY
PARKING
GRAPHIC SCALE
N

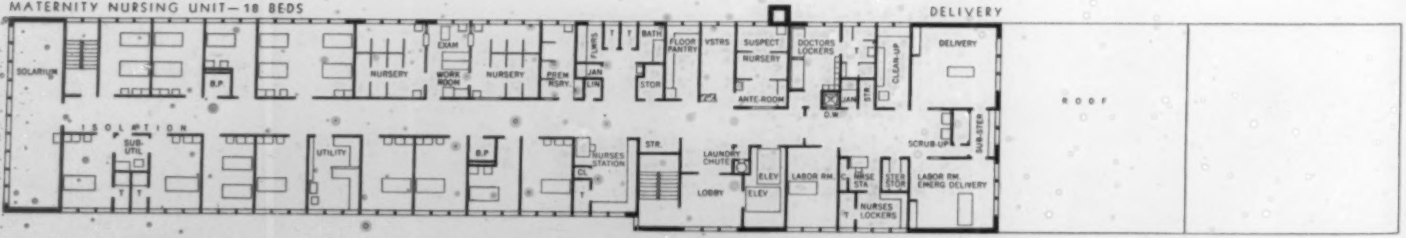
Total gross area of hospital 69,075 sq. ft.
Gross area per bed 691 sq. ft.

This T-shaped plan has the nursing wing with east-west exposure on the south and quiet side of the building. Equal accessibility for out-patients and in-patients to adjunct facilities department. Patients and ambulance entrances separated

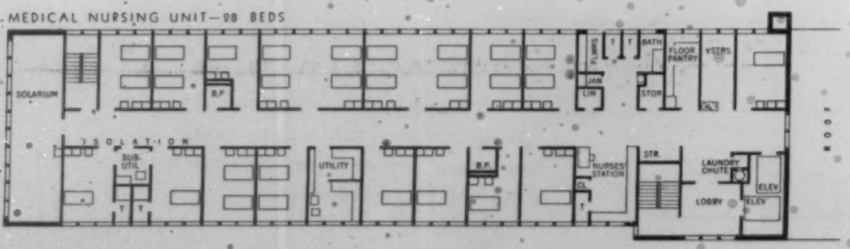
FIRST FLOOR PLAN


SURGICAL NURSING UNIT—27 BEDS
SURGERY
SOLARIUM
ISOLATION
NURSES STATION
CENTRAL STERILIZING & SUPPLY
DOCTORS LOCKERS
NURSE LKRS
OPERATING
SCRUB-UP
EXHAUST FROM LAUNDRY
FRACTURE ROOM
SPLINT CLOS
CYSTO
MINOR OPERATING
PLASTER CLOS
ANESTHESIA STOR
LOBBY
ELEV
ROOF

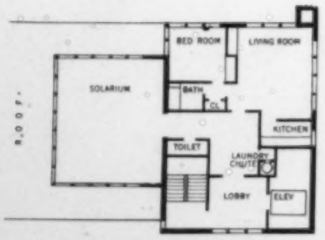
SECOND FLOOR PLAN


MATERNITY NURSING UNIT—18 BEDS
DELIVERY
SOLARIUM
NURSERY
WORK ROOM
EXAM
PREM NSRY
SUSPECT NURSERY
ANTE-ROOM
DOCTORS LOCKERS
CLEAN-UP
SCRUB-UP
ISOLATION
NURSES STATION
LABOR RM.
LABOR RM. EMERG DELIVERY
NURSES LOCKERS
LOBBY
ELEV
ROOF

THIRD FLOOR PLAN

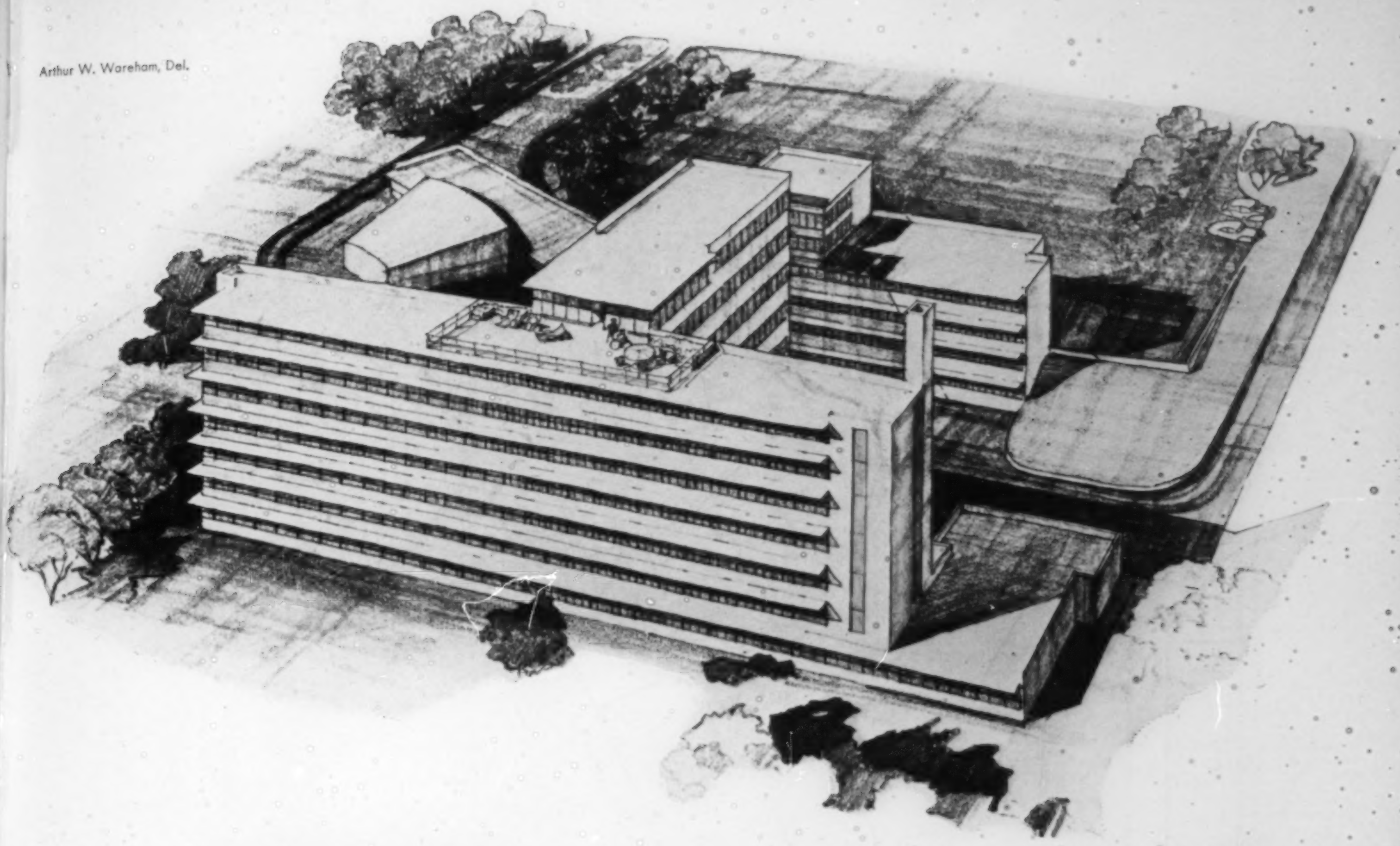

MEDICAL NURSING UNIT—28 BEDS
SOLARIUM
ISOLATION
UTILITY
NURSES STATION
FLOOR PANTRY
LAUNDRY CHUTE
LOBBY
ELEV
ROOF

FOURTH FLOOR PLAN


SOLARIUM
BED ROOM
LIVING ROOM
BATH
KITCHEN
TOILET
LAUNDRY CHUTE
LOBBY
ELEV
ROOF

FIFTH FLOOR PLAN

Arthur W. Wareham, Del.



150 BEDS

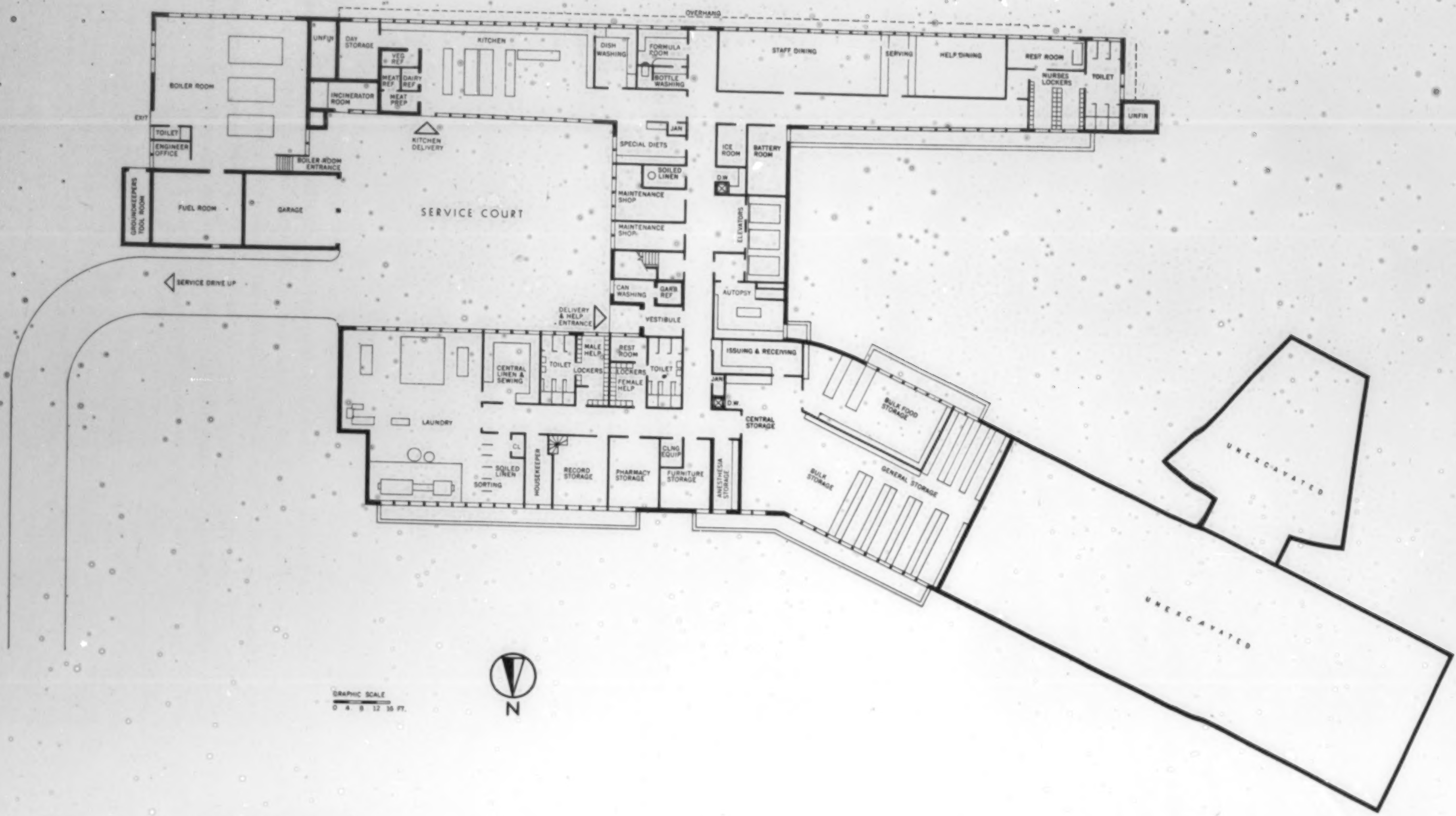
GENERAL HOSPITAL FOR URBAN DISTRICTS

In Conjunction with Complete Public Health Center

THE 150-bed general hospital plan illustrated is an elaboration of the preceding 100-bed institution showing variations in the area of service facilities, particularly in the ground floor area.

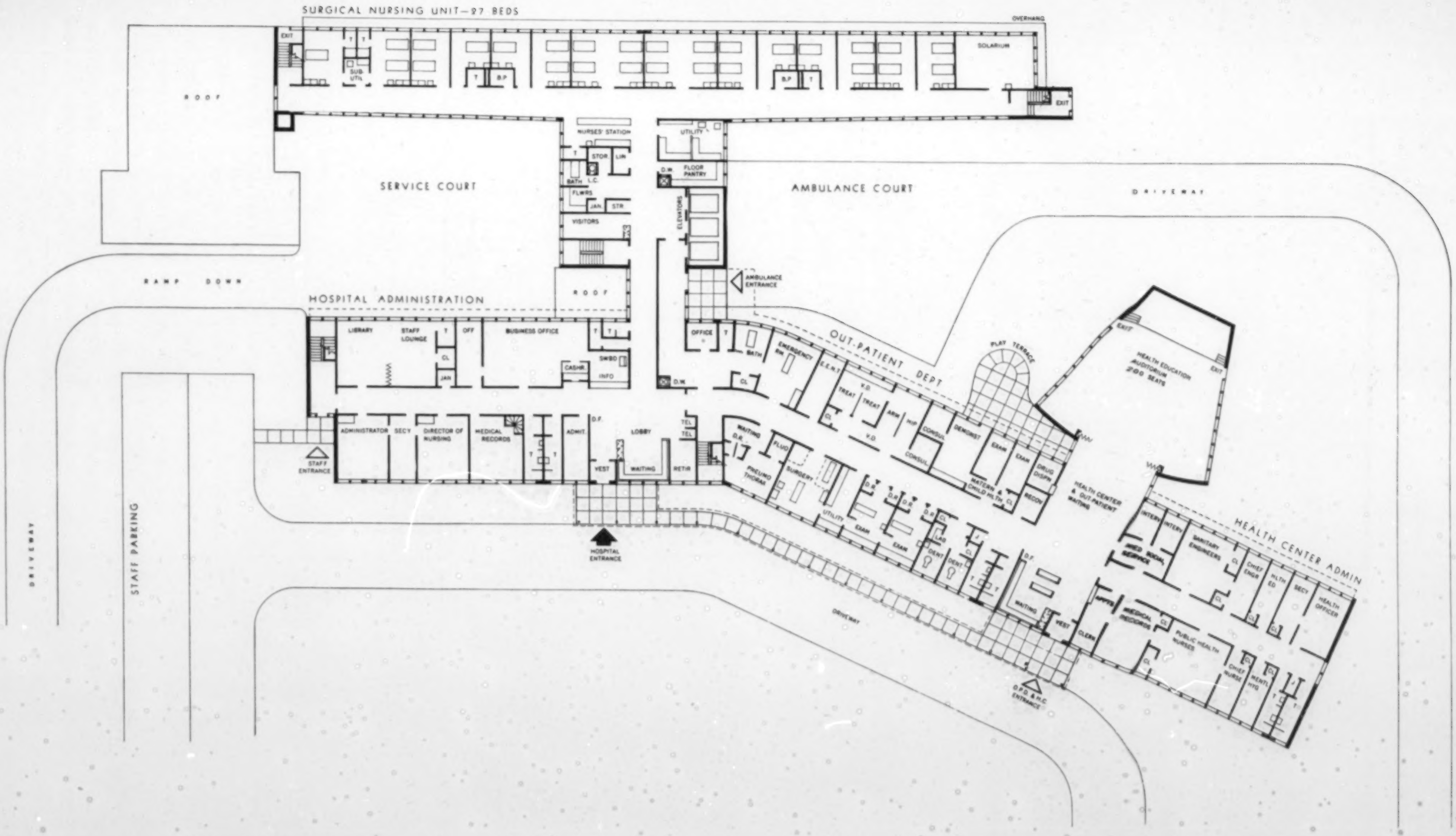
The general administrative area, out-patient and public health services, sufficient to serve almost any community, are concentrated on the first floor. Included in these facilities is an auditorium for health education and for large clinical conferences and similar health meetings necessary to the promotion of a well-rounded community hospital and health program. The public health area is so situated as to permit coordination of its activities with the hospital program but to allow separate administrative control.

A feature of the nursing floors is the concentration of service facilities in the central corridor, and the placement of rooms on one side of the corridor only, to make patient rooms as quiet as possible.


OVERHANG
UNFIN
DAY STORAGE
KITCHEN
DISH WASHING
FORMULA ROOM
BOTTLE WASHING
STAFF DINING
SERVING
HELP DINING
REST ROOM
NURSES LOCKERS
TOILET
UNFIN
BOILER ROOM
VEG REF
MEAT REF
DAIRY REF
MEAT PREP
INCINERATOR ROOM
EXIT
TOILET
ENGINEER OFFICE
BOILER ROOM ENTRANCE
KITCHEN DELIVERY
JAN
SPECIAL DIETS
SOILED LINEN
ICE ROOM
BATTERY ROOM
D.W.
GROUNDKEEPERS TOOL ROOM
FUEL ROOM
GARAGE
SERVICE COURT
MAINTENANCE SHOP
MAINTENANCE SHOP
ELEVATORS
SERVICE DRIVE UP
CAN WASHING
GARB REF
AUTOPSY
DELIVERY & HELP ENTRANCE
VESTIBULE
TOILET
CENTRAL LINEN & SEWING
TOILET
LOCKERS
MALE HELP
REST ROOM
LOCKERS
FEMALE HELP
TOILET
ISSUING & RECEIVING
JAN
D.W.
BULK FOOD STORAGE
CENTRAL STORAGE
LAUNDRY
CL
SOILED LINEN
SORTING
HOUSEKEEPER
RECORD STORAGE
PHARMACY STORAGE
CLNG EQUIP
FURNITURE STORAGE
ANESTHESIA STORAGE
BULK STORAGE
GENERAL STORAGE
UNEXCAVATED
UNEXCAVATED
GRAPHIC SCALE
0 4 8 12 16 FT.
N

GROUND FLOOR PLAN

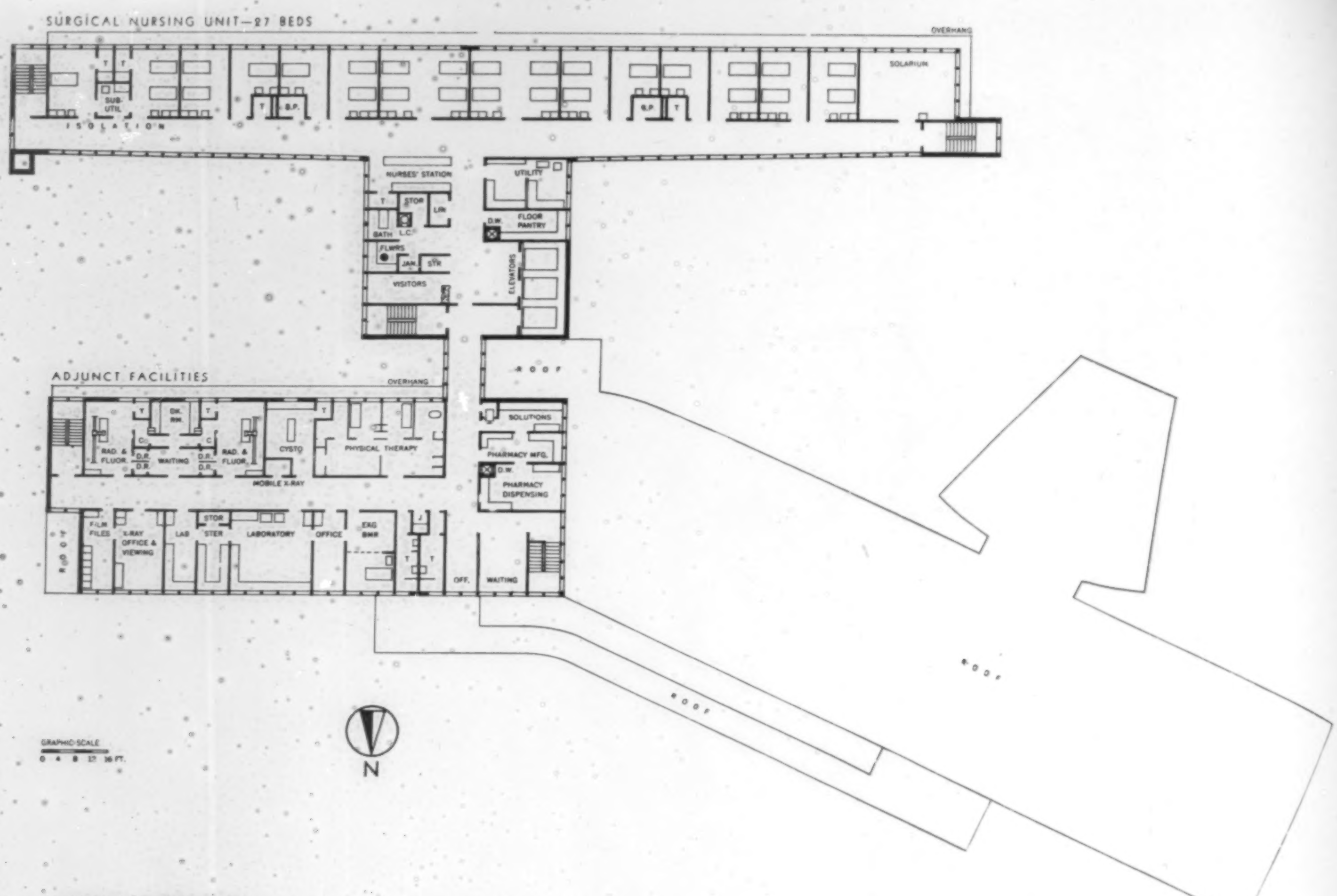
Service facilities are concentrated on the ground floor, but are connected with all other departments by centrally located elevators and dumbwaiters The excavation of the service court provides adequately for ventilation and lighting. This design provides complete separation of entrances. Service and ambulance entrances are off their respective courts, while entrances for staff, out-patients, and the main entrance are on the north or street side of the building, ranged along the main entrance driveway


SURGICAL NURSING UNIT—27 BEDS
OVERHANG
SOLARIUM
EXIT
SUB UTIL
B.P.
T
ROOF
SERVICE COURT
NURSES' STATION
STOR
LIN
BATH
L.C.
FLWRS
JAN.
STR.
VISITORS
UTILITY
D.W.
FLOOR PANTRY
ELEVATORS
AMBULANCE COURT
DRIVEWAY
RAMP DOWN
ROOF
AMBULANCE ENTRANCE
HOSPITAL ADMINISTRATION
LIBRARY
STAFF LOUNGE
OFF
CL
JAN
BUSINESS OFFICE
CASHR.
SWBD
INFO
ADMINISTRATOR
SECY
DIRECTOR OF NURSING
MEDICAL RECORDS
ADMIT.
D.F.
LOBBY
VEST
WAITING
TEL
RETIR
STAFF ENTRANCE
HOSPITAL ENTRANCE
STAFF PARKING
DRIVEWAY
OFFICE
BATH
EMERGENCY RM
E.E.N.T.
TREAT
V.D.
ARM
HIP
CONSUL
DEMONST
EXAM
DRUG DISPN
RECOV
MATERN & CHILD HLTH
OUT-PATIENT DEPT
PLAY TERRACE
HEALTH EDUCATION AUDITORIUM 200 SEATS
EXIT
WAITING
FLUO
PNEUMO THORAX
SURGERY
UTILITY
DENT
LAB
HEALTH CENTER & OUT PATIENT WAITING
HEALTH CENTER ADMIN
INTERVIEW
MED SOCIAL SERVICE
SANITARY ENGINEERS
CHIEF ENGR
HLTH ED
SECY
HEALTH OFFICER
APPTS
MEDICAL RECORDS
CLERK
PUBLIC HEALTH NURSES
CHIEF NURSE
MENTL HYG
VEST
O.P.D. & H.C. ENTRANCE
DRIVEWAY

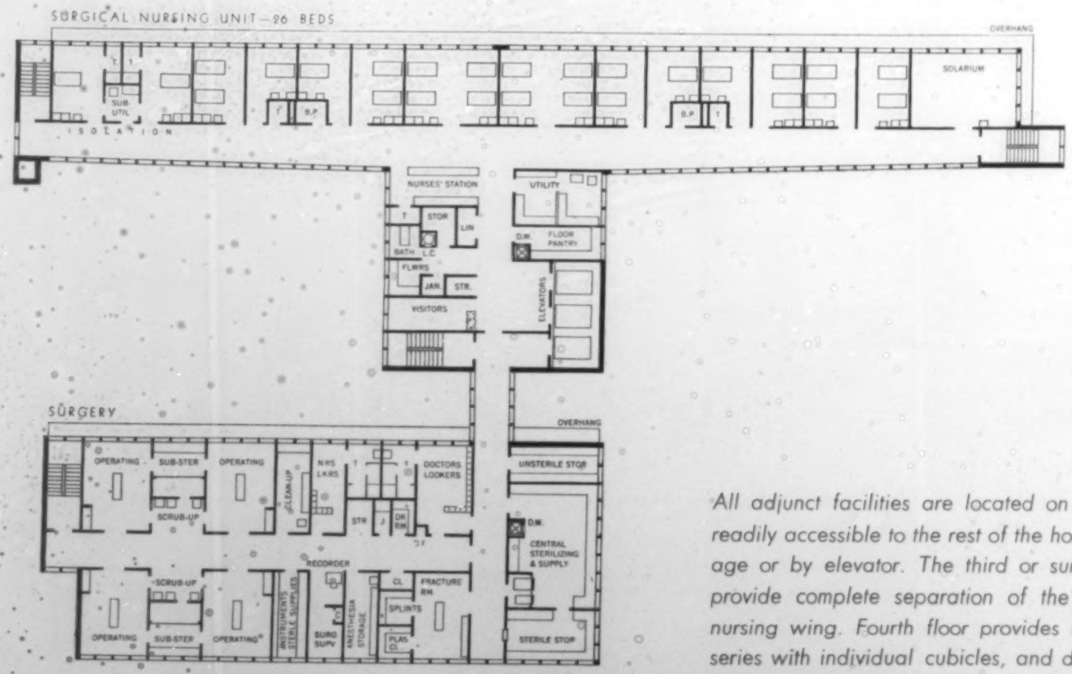
FIRST FLOOR PLAN

Total gross area of hospital 112,902 sq. ft.; gross area per bed 752 sq. ft.

In addition to the usual departments for administration, nursing, and out-patients, this hospital provides space for a health center, including an auditorium for health education. All rooms are to have a southern exposure, with only a quiet, well lighted and ventilated corridor on their north side. Nurses' station and the usual noisy service facilities are grouped centrally in adjacent wing

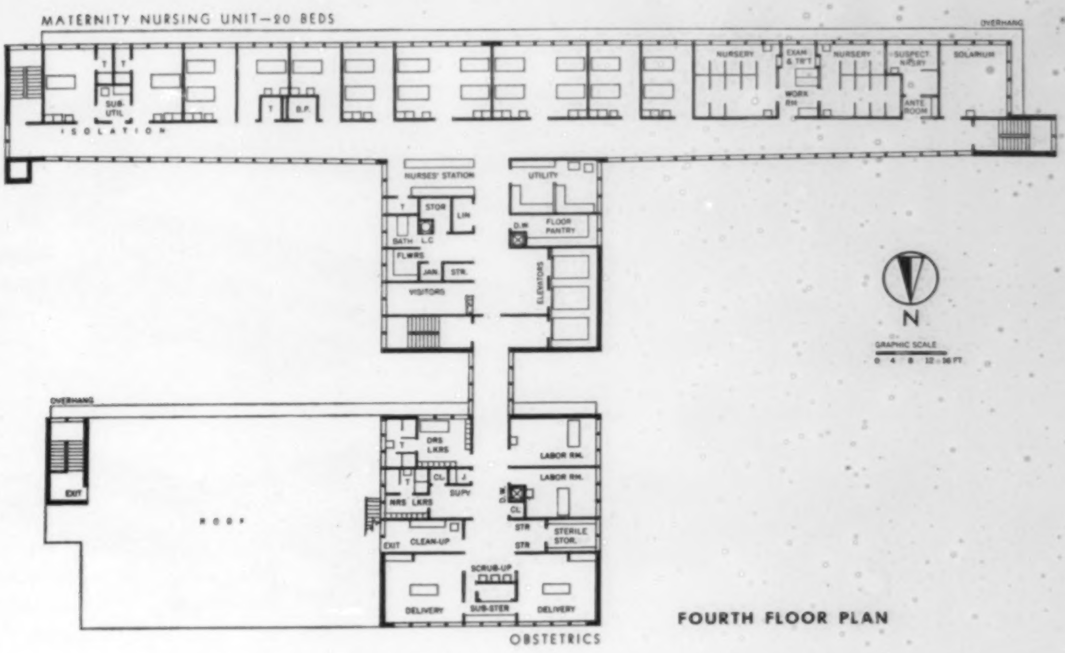

SURGICAL NURSING UNIT—27 BEDS
OVERHANG
SOLARIUM
SUB-UTIL
ISOLATION
T
B.P.
NURSES' STATION
UTILITY
STOR
LIN
BATH
L.C.
FLWRS
JAN.
STR
VISITORS
D.W.
FLOOR PANTRY
ELEVATORS
ROOF
ADJUNCT FACILITIES
OVERHANG
DK. RM.
RAD. & FLUOR.
WAITING
D.R.
CYSTO
PHYSICAL THERAPY
MOBILE X-RAY
SOLUTIONS
PHARMACY MFG.
PHARMACY DISPENSING
FILM FILES
X-RAY OFFICE & VIEWING
LAB
STOR
STER
LABORATORY
OFFICE
EKG BMR
OFF.
WAITING
ROOF
ROOF
ROOF
GRAPHIC SCALE
0 4 8 12 16 FT.
N

SECOND FLOOR PLAN

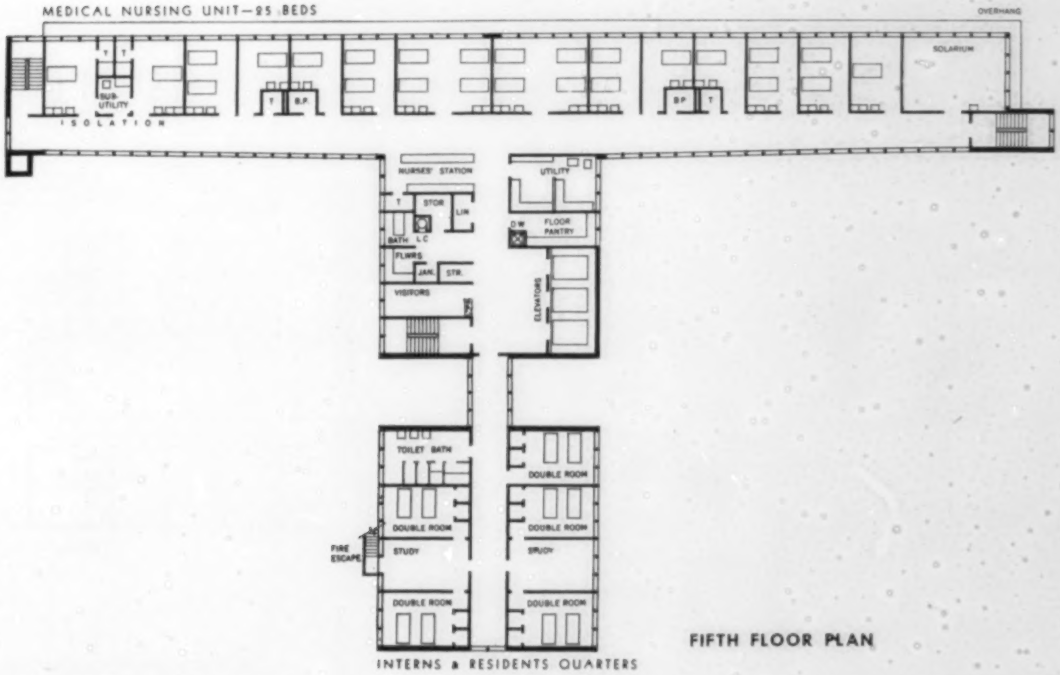

SURGICAL NURSING UNIT—26 BEDS
OVERHANG
SOLARIUM
SUB-UTIL
ISOLATION
T
B.P.
NURSES' STATION
UTILITY
STOR
LIN
BATH
L.C.
FLWRS
JAN.
STR.
VISITORS
D.W.
FLOOR PANTRY
ELEVATORS
SURGERY
OVERHANG
OPERATING
SUB-STER
SCRUB-UP
CLEAN-UP
NRS LKRS
DOCTORS LOCKERS
STR
DK RM
UNSTERILE STOP
D.W.
CENTRAL STERILIZING & SUPPLY
RECORDER
INSTRUMENTS STERILE SUPPLIES
SURG SUPV
ANESTHESIA STORAGE
CL
FRACTURE RM.
SPLINTS
PLAS. CL.
STERILE STOP

THIRD FLOOR PLAN

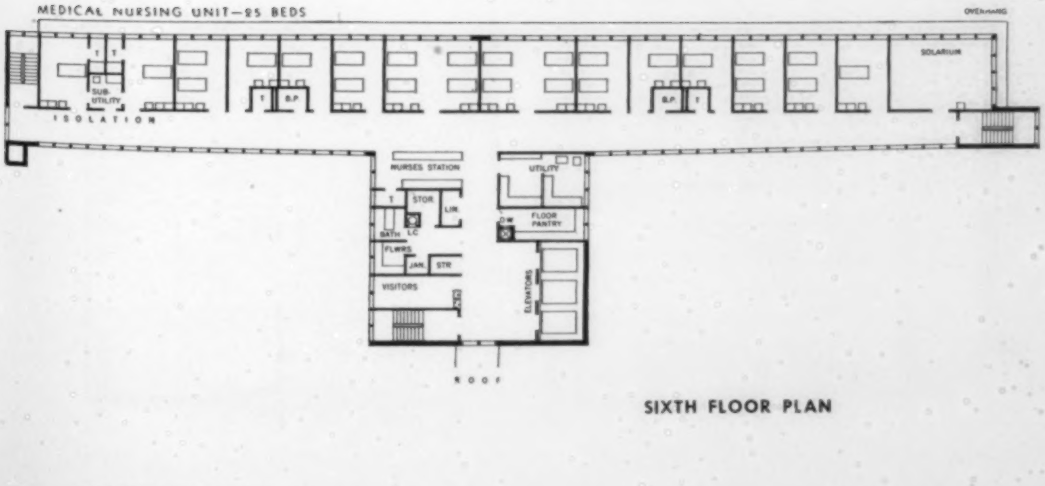
All adjunct facilities are located on the second floor, but are readily accessible to the rest of the hospital either by direct passage or by elevator. The third or surgical floor is designed to provide complete separation of the operating suite from the nursing wing. Fourth floor provides maternity beds, small nurseries with individual cubicles, and delivery facilities. Nurseries are concentrated at the end of the nursing wing, out of the flow of traffic. Delivery suite is isolated from the nursing wing


MATERNITY NURSING UNIT—20 BEDS
OVERHANG
NURSERY
EXAM & TR'T
NURSERY
SUSPECT N'S'RY
SOLARIUM
WORK RM
ANTE ROOM
SUB-UTIL
T
B.P.
ISOLATION
NURSES' STATION
UTILITY
STOR
LIN
T
BATH
L.C
FLWRS
JAN.
STR.
VISITORS
FLOOR PANTRY
D.W
ELEVATORS
N
GRAPHIC SCALE
0 4 8 12 16 FT
OVERHANG
EXIT
ROOF
DRS LKRS
CL
J
SUPV
NRS LKRS
CLEAN-UP
EXIT
LABOR RM.
LABOR RM.
STR
STERILE STOR.
STR
SCRUB-UP
DELIVERY
SUB-STER
DELIVERY
OBSTETRICS

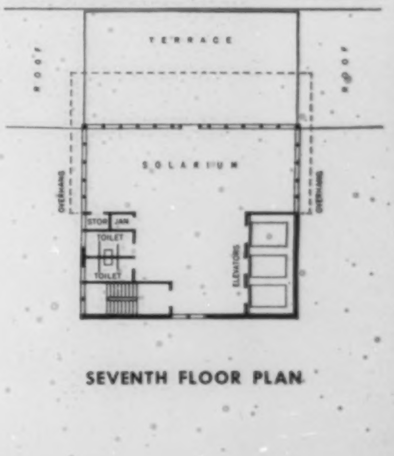
FOURTH FLOOR PLAN


MEDICAL NURSING UNIT—25 BEDS
OVERHANG
SOLARIUM
SUB-UTILITY
T
B.P.
ISOLATION
NURSES' STATION
UTILITY
STOR
LIN
BATH
L.C
FLWRS
JAN.
STR.
VISITORS
D.W
FLOOR PANTRY
ELEVATORS
TOILET
BATH
DOUBLE ROOM
DOUBLE ROOM
DOUBLE ROOM
FIRE ESCAPE
STUDY
STUDY
DOUBLE ROOM
DOUBLE ROOM
INTERNS & RESIDENTS QUARTERS

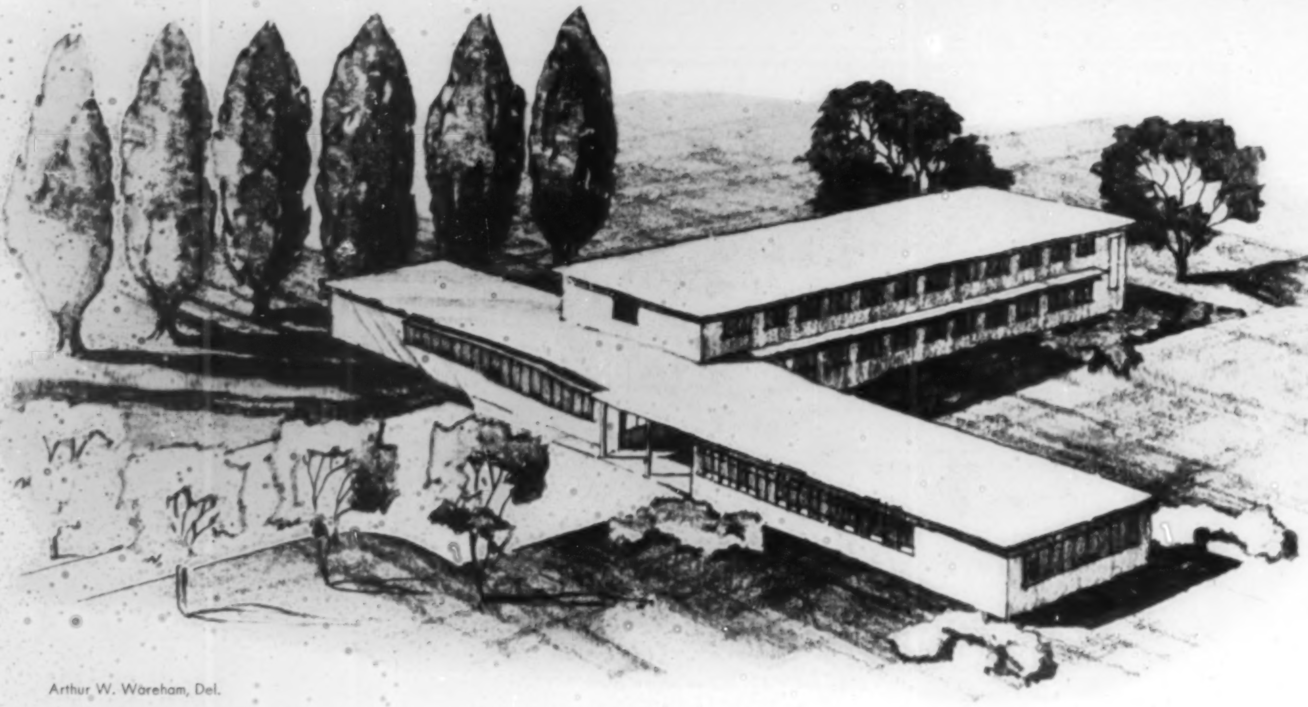
FIFTH FLOOR PLAN


MEDICAL NURSING UNIT—25 BEDS
OVERHANG
SOLARIUM
SUB-UTILITY
T
B.P.
ISOLATION
NURSES' STATION
UTILITY
STOR
LIN
BATH
L.C
FLWRS
JAN.
STR
VISITORS
D.W
FLOOR PANTRY
ELEVATORS
ROOF

SIXTH FLOOR PLAN


TERRACE
ROOF
ROOF
SOLARIUM
OVERHANG
OVERHANG
STOR
JAN
TOILET
TOILET
ELEVATORS

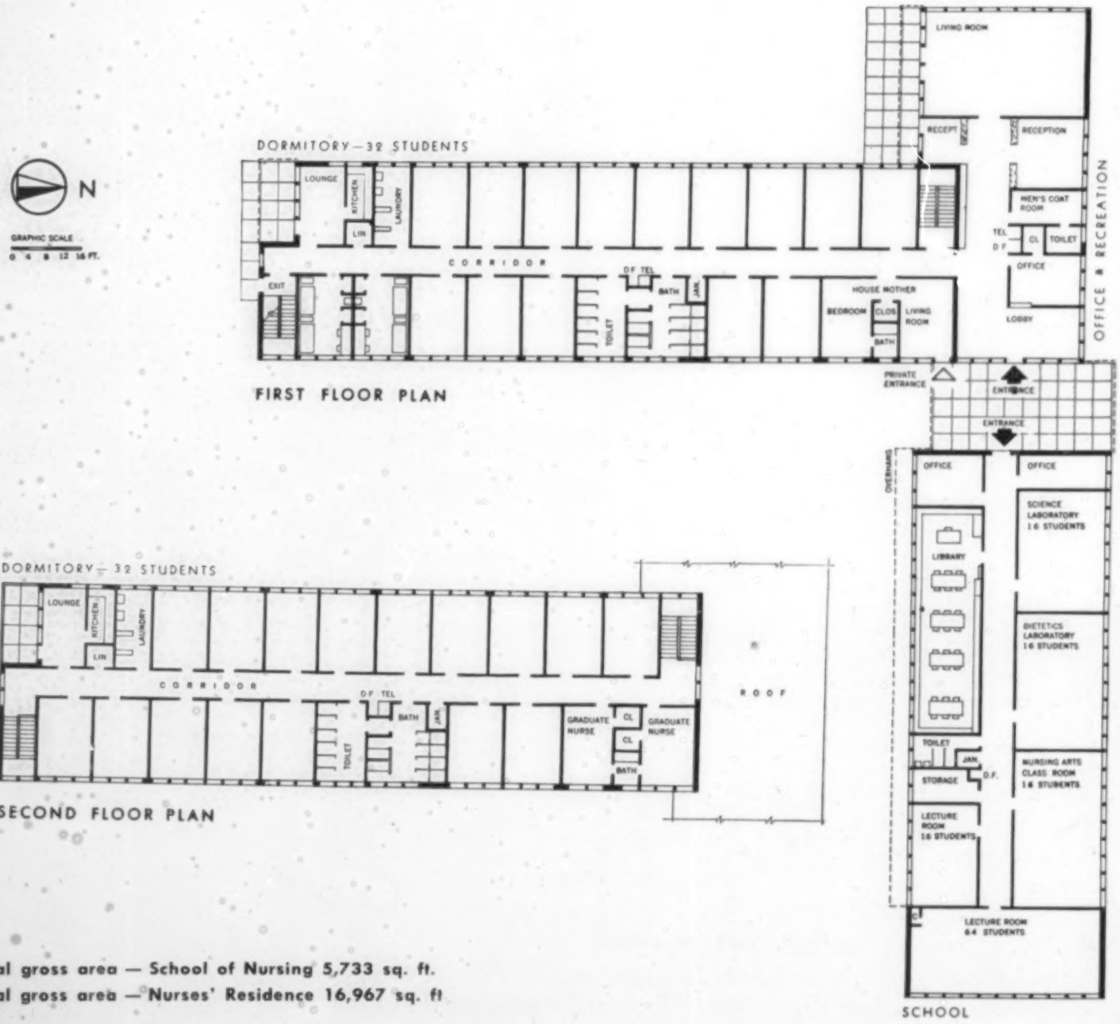
SEVENTH FLOOR PLAN



Arthur W. Wareham, Del.

NURSING SCHOOL

COMBINED CLASSROOM AND DORMITORY FACILITIES


N
GRAPHIC SCALE
0 4 8 12 16 FT.
DORMITORY—32 STUDENTS
LOUNGE
KITCHEN
LIN
LAUNDRY
CORRIDOR
EXIT
DF TEL
BATH
JAN.
TOILET
HOUSE MOTHER
BEDROOM
CLOS
LIVING ROOM
BATH
LIVING ROOM
RECEPT
RECEPTION
MEN'S COAT ROOM
TEL
D F
CL
TOILET
OFFICE
LOBBY
OFFICE & RECREATION
PRIVATE ENTRANCE
ENTRANCE
ENTRANCE
OVERHANG
OFFICE
OFFICE
SCIENCE LABORATORY 16 STUDENTS
LIBRARY
DIETETICS LABORATORY 16 STUDENTS
TOILET
JAN.
STORAGE
D.F.
NURSING ARTS CLASS ROOM 16 STUDENTS
LECTURE ROOM 16 STUDENTS
LECTURE ROOM 64 STUDENTS
DORMITORY—32 STUDENTS
LOUNGE
KITCHEN
LIN
LAUNDRY
CORRIDOR
DF TEL
BATH
JAN.
TOILET
GRADUATE NURSE
CL
CL
GRADUATE NURSE
BATH
ROOF

FIRST FLOOR PLAN

SECOND FLOOR PLAN

SCHOOL

Total gross area — School of Nursing 5,733 sq. ft.
Total gross area — Nurses' Residence 16,967 sq. ft

Teaching facilities and dormitories of schools of nursing should be separate units, and should be separated from the hospital building. Dormitories or nurses' homes are today recommended only for student nurses. Graduate nurses now prefer not to be housed in the institution or on its grounds.

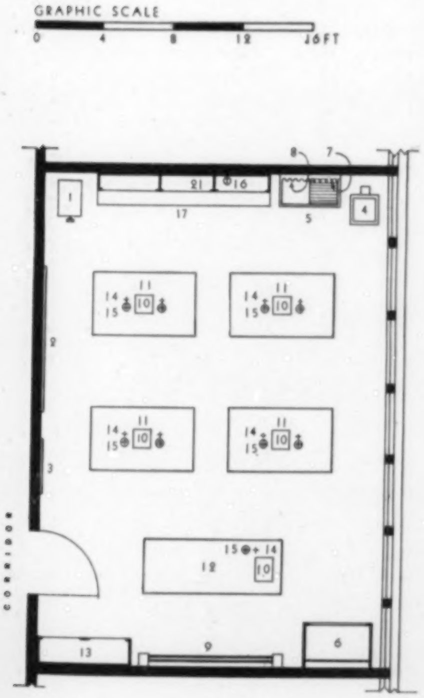
This particular plan has been designed to accommodate 64 students and would probably be in association with a hospital having a daily average number of patients in excess of 100 (exclusive of bassinettes). Most authorities consider it both economically and educationally unsound for a smaller hospital to assume primary responsibility for conducting a nursing education program. Such hospitals do not have a daily average number of patients sufficient to give every enrolled student adequate and well-rounded experience in all essential clinical spheres, nor can they usually obtain and maintain a qualified instructional staff.

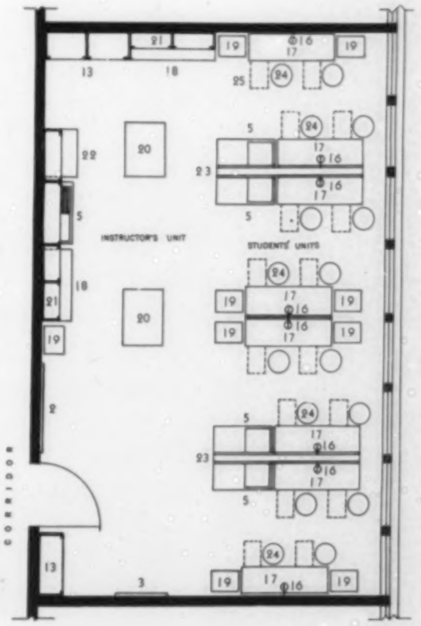
The plans presented provide for classrooms and laboratories to accommodate sections of 16 students each; the large lecture hall will hold the entire student body of 64. Reference to the detailed classroom drawings will show how the plan can be readily modified for larger or smaller classes by increasing or decreasing the number of students' units. Whenever possible the educational facilities for instruction in sciences available in educational institutions (such as colleges and universities) in the community should be used by the school of nursing. This would include well trained instructors and laboratory facilities and preclude the necessity of the duplication of costly equipment and certain highly trained personnel.

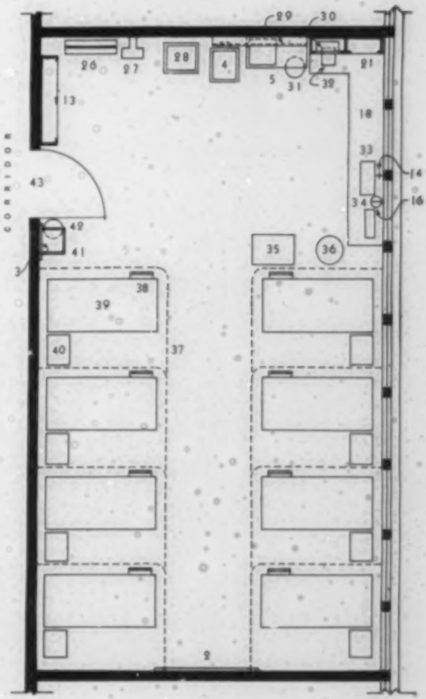
The students' quarters are shown with double rooms for economy, although single rooms are preferred for the sake of morale, maintaining good standards of health, and better conditions for study. An important distinction between housing for student nurses and that provided in the average college dormitory is that in the case of nurses, hours for study, duty, sleeping, and recreation vary widely.

LEGEND

1 Autoclave 8 X 16 in.
2 Blackboard
3 Bulletin Board
4 Clinical Sink
5 Sink & Drain Board
6 Fume Hood
7 Drain Pegs
8 Graduate Rack
9 Sliding Blackboard
10 Sink
11 Laboratory Table, 4 Students Each
12 Instructor's Table
13 Storage Cabinet
14 Gas
15 Electricity
16 Wall Outlet
17 Counter with Pull Shelves, Drawers & Cabinets Below
18 Counters with Drawers & Cabinets Below
19 Range With Oven
20 Moveable Table
21 Wall Cabinets
22 Refrigerator
23 Partition 4′ 0″ High
24 Stool
25 Pull Shelves
26 Portable Utensil Rack
27 Bed Pan Sterilizer
28 Utensil Sterilizer
29 Shelf with Wood Rod under
30 Locked Narcotics Cabinet
31 Sanitary Waste Receptacle
32 Medical Sink
33 Hot Plate
34 Instrument Sterilizer
35 Dressing Carriage
36 Linen Hamper
37 Overhead Curtain Rod
38 Chair
39 Bed
40 Bedside Cabinet
41 Sink with Elbow Control
42 Waste Receptacle
43 Door 3 ft. 10 in.

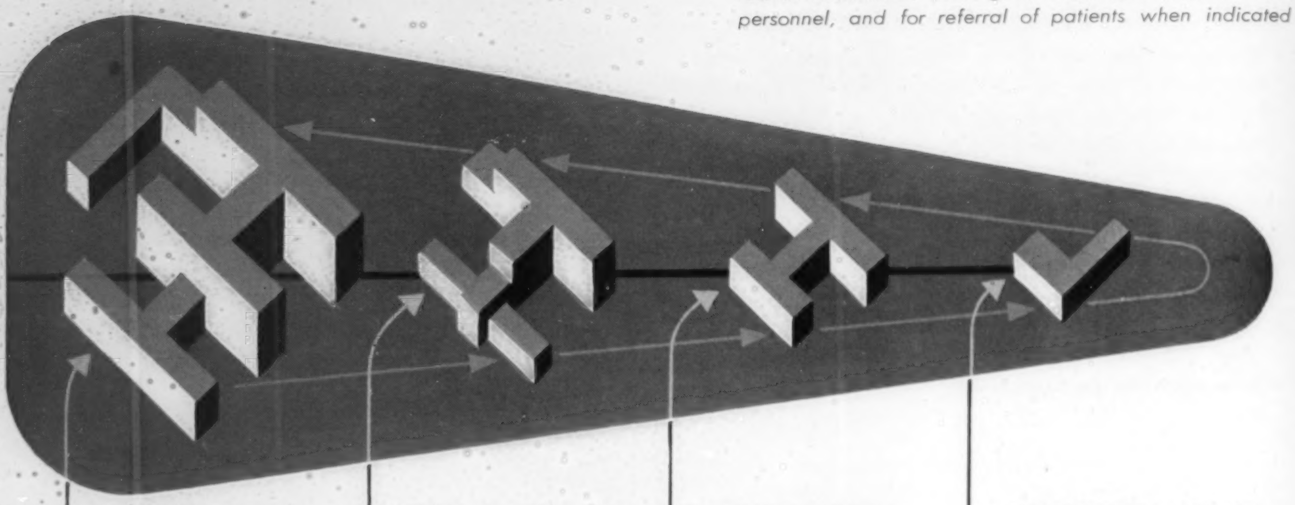






THE COORDINATED HOSPITAL SYSTEM

The plan provides for constant exchange between hospitals of information, training, and consultation service and personnel, and for referral of patients when indicated



BASE HOSPITAL

Teaching Research Consultation

- CANCER CLINIC
- PSYCHIATRIC SERVICE
- HEART CLINIC
- MAJOR SURGERY
- INTERNAL MEDICINE
- OBSTETRICS
- PEDIATRICS
- ORTHOPEDIC SURGERY
- COMMUNICABLE DISEASES
  - Tuberculosis
  - Venereal Disease
  - Other
- TEACHING
  - Nurses
  - Interns
  - Residents
  - Post Graduates
- LABORATORY
  - X-Ray
  - Pathology
  - Bacteriology
  - Chemical
- PHYSIOTHERAPY
- DENTISTRY
- EYE, EAR, NOSE, THROAT
- DIETETICS

DISTRICT HOSPITAL

- MAJOR SURGERY
- OBSTETRICS
- INTERNAL MEDICINE
- COMMUNICABLE DISEASES
  - Tuberculosis
  - Venereal Disease
  - Other
- PEDIATRICS
- EYE, EAR, NOSE, THROAT
- DENTISTRY
- PHYSIOTHERAPY
- LABORATORY
  - X-Ray
  - Pathology
  - Bacteriology
  - Chemical
- TEACHING
  - Nurses
  - Interns
  - Dietetics

RURAL HOSPITAL and Health Center

- INTERNAL MEDICINE
- OBSTETRICS
- EYE, EAR, NOSE, THROAT
- DENTISTRY
- MINOR AND UNCOMPLICATED SURGERY
- LABORATORY
  - X-Ray
  - Bacteriology
- ADMINISTRATIVE PUBLIC HEALTH OFFICES
  - Health Officer
  - Sanitarian
  - Public Health Nurses
  - Public Health Clinics
  - Maternal and Child Health
  - Tuberculosis
  - Venereal Disease
  - Public Health Education

COMMUNITY CLINIC

- OBSTETRICS
- EMERGENCY MEDICAL AND SURGERY
- LABORATORY
  - X-Ray
  - Bacteriology
- DENTISTRY
- PRIVATE OFFICE OR OFFICES FOR PRIVATE PHYSICIANS
- ADMINISTRATIVE PUBLIC HEALTH OFFICES
  - Health Officer
  - Sanitarian
  - Public Health Nurses
  - Public Health Clinics
  - Maternal and Child Health
  - Tuberculosis
  - Venereal Disease
  - Public Health Education

To improve hospital service along its three major fronts — preventive, diagnostic, therapeutic — the Surgeon General has suggested the "coordinated hospital system." It proposes tying all hospitals into a cooperative hook-up, in which there would be a constant exchange of information, training, consultation service and personnel, and in which patients would be referred from one hospital to another.

With the large "base" or "teaching" hospital as the center, next in line would be a large general hospital, called here the "district" hospital. Then a smaller one, the "rural" hospital, of minimum size for genuine hospital service. For the isolated community there would be a community clinic with a small nursing unit for obstetrical or emergency cases, not really a hospital at all, but an outpost at the far end of the line.

ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

POURED RESILIENT FLOORING FOR HOUSES

When hardwood flooring was in extremely short supply following the war, housing authorities sought a composition plastic flooring that would be attractive and durable and that could be poured-in-place over concrete, wood, or steel subfloors.

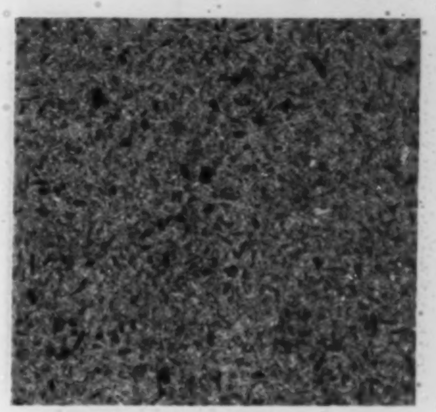
One type of such flooring, approved by Federal Housing Authority, was composed of kiln-dried oak flour, asbestos fibers, and chemical binding agents. Chemically it belonged to the magnesite family of composition flooring. Another type of composition poured flooring, now on the market, has a base of liquid rubber latex, to which is added either cork or marble chips. Installation and finishing methods vary, but all types are said to answer the need for a flooring that is resilient and non-slip, not too expensive, fire-resistant, wear-resistant, and readily cleaned. All the flooring types are considered permanent. Once set, they form a one-piece monolithic flooring bonded to the subflooring.

Their finished appearance varies according to the aggregate. The wood-aggregate types resemble light and dark oak floors in color, although they are of course seamless; the terrazzo types combine different colored marble chips and base materials; while the cork-aggregate floors present a natural dark cork color against a darker background.

Magnesite Composition: This type of flooring, made from magnesium oxychloride cement, is new only in its adaptation to houses as a finished floor, and in the development of wood aggregates. For many years oxychloride cement floors with a mineral aggregate have been used for industrial flooring, in stores, over ship decking, etc., where a hard wear-resistant surface is required, and in houses as an underlayment for

Below, pulverized wood bark, Silvacon, mixed with magnesium oxychloride cement, forms this one-piece resilient flooring, poured-in-place and finished with a sander. Right, other types of flooring, shown about actual size: (1) Oaktred, wood chips in oxychloride cement; (2) Dex-O-Tex rubber flooring with a cork chip filler, and (3) same with marble chips for terrazzo effect. The rubber latex base sets hard yet resilient

Loren Smith Photo



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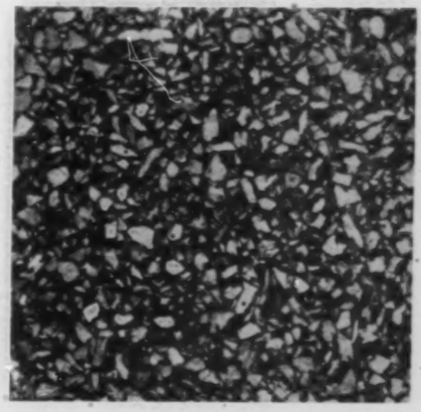

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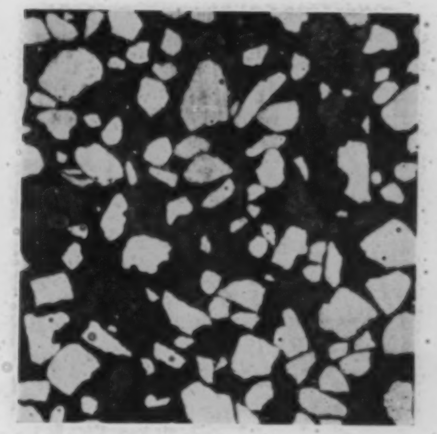

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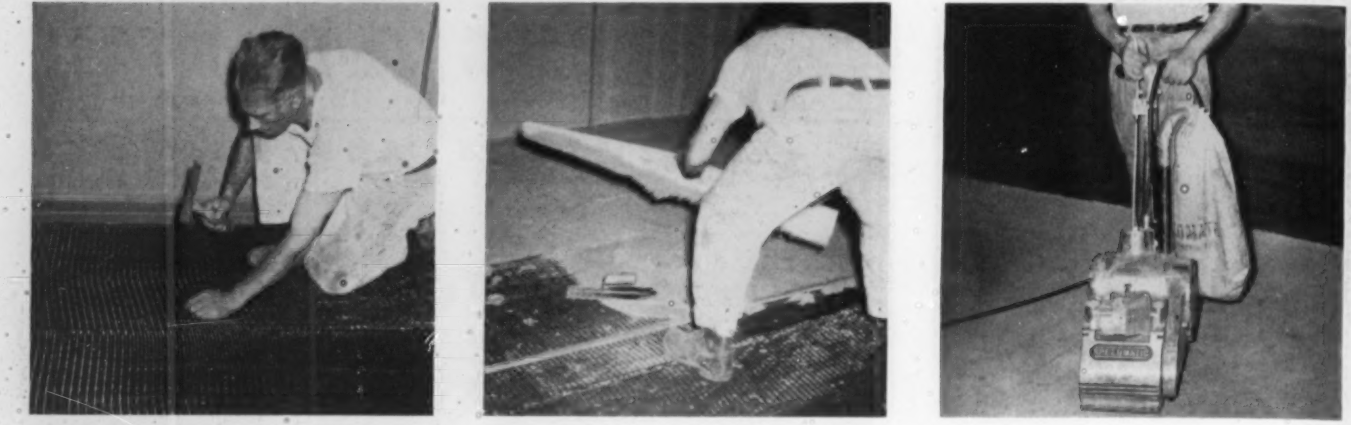


Steps in installing oxychloride cement floor over wood subflooring. Left, metal lath is nailed down over waterproof paper (neither is required on concrete subflooring which is broom finished). Center, the plastic mix is leveled off about ½ in. thick. Right, after the cement has been troweled and allowed to set, the finished floor is sanded

linoleum and other floor coverings.

The oxychloride cements are formed by a reaction between magnesium oxide and a solution of magnesium chloride, which, in uniting, produce a dense, hard material, crystalline in structure, but horn-like in texture. To the cement can be added a wide variety of aggregates and fillers producing a finished floor with a wide range of physical characteristics.

Fillers have included asbestos, wood chips and wood flour, silex, marble flour, and sawdust. Aggregates may include sand, fine crushed stone or other chemically inert, low-absorbent, physically strong materials. Formulations for terrazzo floors include marble chips of selected colors. The wood types of magnesite floors are particularly suited to houses, since they are comfortable under foot, yet do not dent under the pressure of heavy furniture, and are insulating and sanitary.

This flooring can be laid over any subfloor such as wood, concrete, tile, steel, or stone. New concrete subfloors should be broom finished to assure a satisfactory bond, and allowed to cure for about 30 days before direct application of the oxychloride coating or about seven days if a bonding medium of rubber latex or plastic resin is used.

Over wood subfloors, a layer of asphalt-saturated felt is usually first applied, and an anchoring medium of expanded metal lath nailed over the felt. Steel subfloors must be free from rust and oil, and the anchoring medium (mesh, fabric, clips) securely fastened and protected with a base coating.

The ingredients of the flooring composition are mixed with water at the site, then spread over the floor to the specified thickness, leveled by darbying, and finished usually by sanding after a setting period of about 48 hours. Customary thickness for house floors is about one-half inch. After finishing, the floors are waxed and maintained in the same way as hardwood flooring.

Rubber-Base Flooring: The resilience and toughness of rubber make it a particularly desirable floor surfacing material. By a new process, an aggregate of either marble chips or cork chips can be mixed with a liquid mastic of synthetic rubber latex, and spread over a subflooring to form a permanent finished floor in houses. The mix also contains a dehydrating powder to control the setting, and pigments for base coloring.

Installation is similar to that of magnesite composition flooring. No primer membrane is required except over wood subfloors or on concrete that is cast on grade, to prevent moisture seepage.

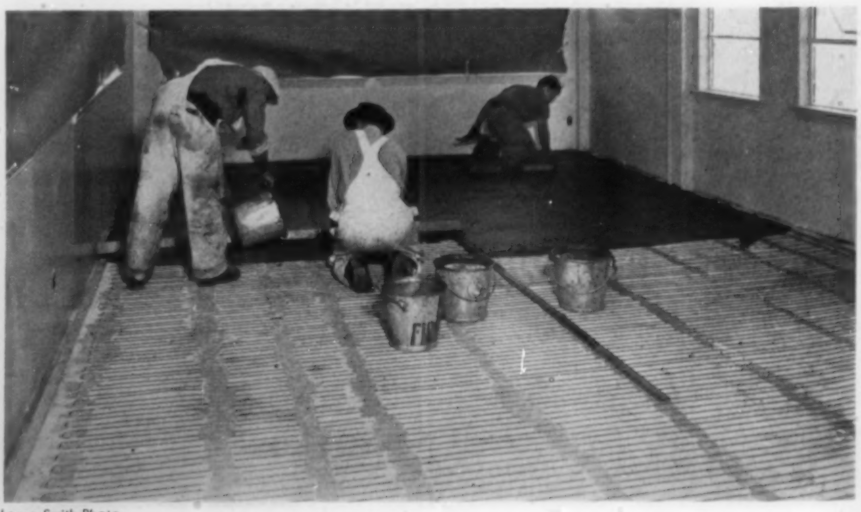
After spreading the flooring material to the desired depth, usually ¼ to ⅜ in. for the cork type and ⅜ in. for the terrazzo, the mix is trowelled to a level surface, allowed to dry for from 48 to 72 hours, and then sanded or polished to a smooth finish. Maintenance requires only cleaning with soap and hot water.

While the cork flooring is more generally suitable for houses, the terrazzo type is sometimes used for dramatic effect. One particular installation features a black Carrara marble chip within a dark green rubber base.

The cork type floor is particularly quiet underfoot, and even the terrazzo type is resilient due to its cushioning rubber base. Weight per sq. ft., ⅜ in. thick, is about 3 lb. for the cork flooring and 4½ lb. for the terrazzo.

Photos courtesy of Crossfield Products Corp.; Kompolite Building Materials, Inc.; Oxychloride Cement Association, Inc.; and Raecolith Flooring Co.

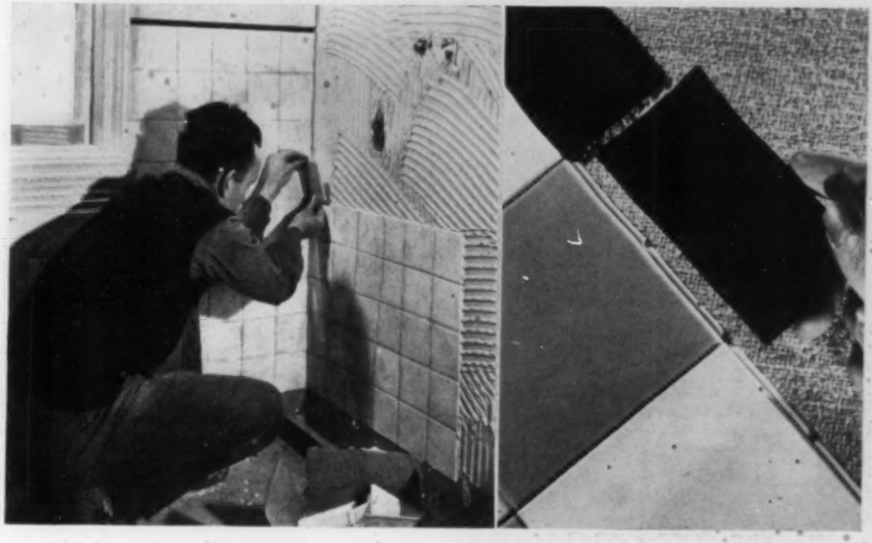
Composition floors can be panel heated. In this Seattle house, electric heating coils are laid directly in the oxychloride cement flooring. Panel heating with hot water is possible when pipes are laid near the surface of concrete subflooring



Loren Smith Photo

PLASTIC WALL TILE

Levitt & Sons, Inc., is using a new type of plastic wall tile in kitchens and bathrooms of houses being built in a development on Long Island, N. Y., where last year it produced and sold 1000 houses. After the rough plastered walls are coated with a special mastic cement, the tile, called *Pittsburgh Interlocking Wall Tile*, is pressed into place quickly and accurately due to its self-aligning design. Two edges of each 4¼-in. square have an alternately concave and convex overlap which serves to align them with preceding tiles. There is also a small locking "dot" in the center of one edge that fits into a notch in the edge of the opposing tile. These features lock the tile in horizontal and vertical alignment, and also form a seal between the tiles, eliminating the need for grouting the joints. The tiles can be cut to fit where necessary. They are now being made in six field colors (plain white and ivory, and marbleized blue, green, yellow, and peach) and three trim colors (black, dubonnet, and blue), in half-tile, feature strips, cove base, and outside corners. Pittsburgh Tile Co., Pittsburgh, Pa.



Plastic tile has interlocking feature for easy alignment, is cemented to wall with a mastic

PRECAST SYSTEM

A number of industrial buildings, employing the *Cemenstone System* of precast reinforced concrete construction, have gone up recently in the Pittsburgh area. In this system, the architect is offered a variety of simplified and standardized framing members, floor slabs, and wall panels, that are factory cast to specifications within certain limits. The building units consist of interior columns, wall columns, girders or beams, joists, flat slabs, long-span channel slabs, wall panels, and brackets. Tables similar to structural steel load tables are used to select the right size framing members.

Concrete framing has suffered in the past from poor connecting methods. Here, welding is used to join embedded pipe sections to the reinforcing in other members, and roof slabs and wall panels are tongued and grooved. A crawler crane is used to transport the large precast units on the job; and can pick up and place a 5-ft. by 20-ft. wall panel in 10 minutes.

Standardized casting procedures and simplification in structural design are said to make possible great savings in construction time. For example, the structural framing units of a one-story building, covering 8500 sq. ft., were erected in about six weeks after receipt of the initial order; actual erection time was four days, using a crew of six men and a mobile crane. Cemenstone Corp., Neville Island, Pittsburgh 25, Pa.

Standardized system of precast structural members speeds industrial building construction

THERMOPANE

Following a two year period in which deliveries of *Thermopane insulating glass* were very slow, the manufacturer now announces that the back-order file has been brought down to a 45-day basis, and stocks of standard size Thermopane have been shipped to distributors all over the United States. As a result, orders for standard sizes can in most cases be filled immediately and orders for any size can be filled in 45 days. Libbey-Owens-Ford Glass Co., Toledo 3, Ohio.

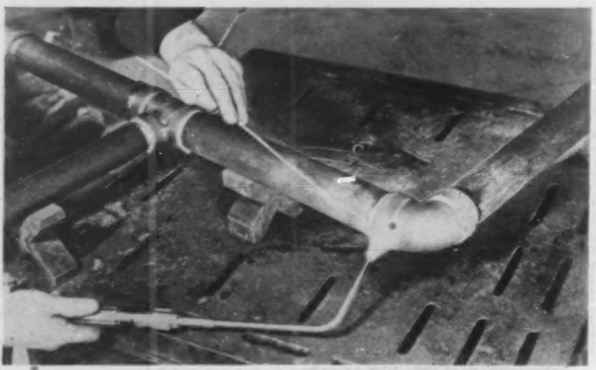
DUMBWAITER-CONVEYOR

Designed for mechanized food handling in hospitals or institutions, the *Olson Subveyor* is a combination horizontal conveyor and vertical dumbwaiter. In the kitchen, trays are placed on the conveyor belt and food items added to them while in motion. As each tray reaches the dumbwaiter, it is automatically picked up and carried to the desired floor above. Control is effected through a pushbutton selector located in the kitchen and tied up with signal buttons on the floors above. Trays of soiled dishes are placed in the descending machine, and automatically transferred to a belt conveyor in the dishwashing room and carried to the scrapping table. Samuel Olson Mfg. Co., Inc., 2418 Bloomingdale Rd., Chicago 47, Ill.

STAIR PLANNING

A multiple scale on transparent plastic contains 10 important scales for spacing stair risers, treads, rafters, studs, joists, etc.; and a calculator for computing factors in stair planning. All scales are calibrated ⅛, ¼, and ½ in. to the foot. Rapidesign, Inc., Dept. AR, 111-B South Orange Ave., Glendale 4, Calif.

(*Continued from page 117*)



Left, malleable pipe fittings, designed for brazing, eliminate need for threading and make possible reduced wall sections in pipe

THREADLESS FITTINGS

A new type of malleable fitting now makes possible brazed connections with small-diameter steel and wrought iron pipe. Described as a development that opens the way to reducing the wall thickness and weight of such pipe, *Flagg-Flow malleable iron fittings* are threadless and enable the use of plain end pipe. Since none of the pipe wall is cut away by threading, lighter piping can be used without loss of strength. Designed for brazing to standard black steel or wrought iron pipe, the new fittings are currently made in sizes up to and including 2 in., which comprise a large portion of the piping now installed.

Engineers of the Flagg Company point out that in piping the ideal has always been to obtain the strength and tightness of a "one-piece" system. Welding has solved this problem to a large extent on high-pressure and high-temperature lines, but has been less practical for non-critical piping in the bulk of moderate pressure and temperature systems.

Complete freedom in piping layout is claimed, since Flagg-Flow fittings can be placed in exactly the position desired and brazed in that position. The silver brazing alloy flows by capillary action to form a seamless joint. If desired, joints can be made flush against a wall or each other.

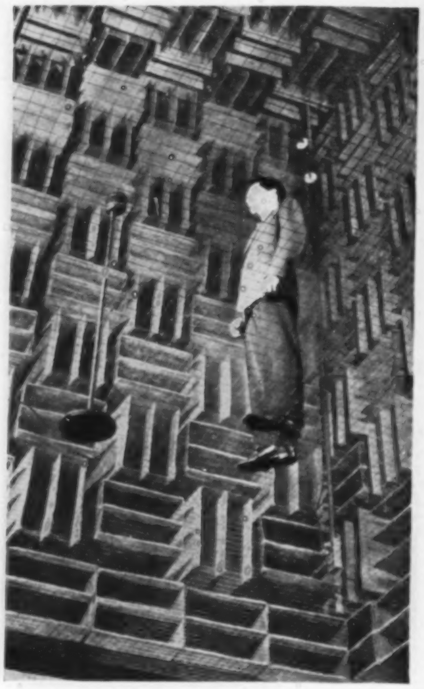
The fittings are applicable for 150-lb. working steam pressure at 450° F., or 300-lb., non-shock, oil, water, or gas lines at 150° F. Stanley G. Flagg & Co., Inc., Philadelphia, Pa.

SHADING MEDIUM

For draftsmen and renderers, there is a new type of mechanical shading medium, a tissue-thin adhesive-backed transparent sheet known as *V-Film*. The sheet contains an invisible shading pattern which appears only when it is brushed with a special developer; permitting a natural brushing technique and eliminating the need for cutting out printed patterns. According to the manufacturer, rubbing or erasing will not injure the shading since it is processed into the sheet; and the film can be quickly stripped off the drawing when desired. Craftint Mfg. Co., 1615 Collamer Ave., Cleveland 10, Ohio.

ACOUSTICAL ROOM

An almost completely echo-free room has been built by Bell Telephone Laboratories as a place for acoustical research. Here sounds are studied in their pure unaltered state, unaffected by their reflection or echo. Walls, ceiling, and floor are lined to a depth of 5 ft. with "wedges" of glass fiber acoustical material, bonded with Bakelite phenolic resins. The work floor, suspended in space, is formed from a mesh of thin steel cables, capable of supporting several tons of equipment. The room's unique design is reported to eliminate 99.98 per cent of incident sound.



Special acoustical room is designed for complete sound absorption. Work floor is steel net suspended in space

HOSPITAL FOOD CART

A new hospital meal service cart has been announced which "moves the serving pantry to the patient's door." Known as *Mealpack Tray Cart Model 20*, it provides service for 20 complete meals assembled in the kitchen. The tray cart is not heated; food and beverages are kept hot or chilled in insulated stainless steel containers. Mealpack Corp. of America, 152 W. 42nd St., New York 18, N. Y.

Mobile hospital canteen has individual insulated containers of stainless steel

AIR DIFFUSER

Ease of adjustment is featured in the *C-1 Anemostat Air Diffuser* which projects the desired air flow pattern at the turn of a knob, from draftless diffusion to downward projection. Room air is drawn into the device and mixed with supply air, at various ratios, so that the Anemostat can be used for heating, ventilating, or cooling in combination. Adjustment can also be made by remote automatic or manual control; and pneumatically operated control equipment can be installed to adjust any number of Anemostats simultaneously. Anemostat Corp. of America, 10 E. 39th St., New York, N. Y.

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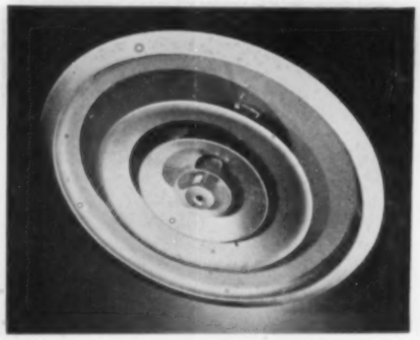

Air diffuser features easy adjustment

MANUFACTURERS' LITERATURE

DIFFUSING GLASS

Magnalite Diffusing Glass (Catalog M-48). Describes a type of textured glass with cylindrically shaped "lenses" covering the surface for even light distribution; examples of its use for screens and partitions, skylights, and as a fluorescent lighting shield. 4 pp., illus. J. Merrill Richards, 25 Huntington Ave., Boston 16, Mass.*

KITCHEN PLANNING

The Key to Convenient Kitchens Styled in Steel. Catalog of kitchen sink, counter, and storage units, and plans of suggested kitchen arrangements in various sizes and shapes. 16 pp., illus. American Central Division, Avco Mfg. Co., Connersville, Ind.

SOUND CONTROL

Johns-Manville Sound Control. Materials and procedures for quieting noise, correcting acoustics, and isolating vibration. Particular attention is paid to the design of acoustical ceilings combined with fluorescent troffers; also Transite acoustical panels, and acoustical treatment of broadcasting studios. Provides construction details and a data chart giving basic information about the various sound-control products. 16 pp., illus. Johns-Manville, 22 E. 40th St., New York 16, N. Y.*

GRANITE

Color in Granite. A description of the various kinds of architectural granite, accompanied by photographs in color. Available types include not only domestic granite but also the products of quarries in Canada, South America, Europe, and Africa. While not a design manual, the booklet contains certain essential data on slab sizes, tolerances, thicknesses, and finishes. 16 pp., illus. H. E. Fletcher Co., West Chelmsford, Mass.*

STORE FRONTS

Brasco Safety-Set Store Fronts (Catalog 48). Details of sash and sill standard stock members, in stainless steel or anodized aluminum, to support and protect today's enlarged glass areas; quarter-size details of safety-set construction for holding plate glass without pressure, springs, or set screws. Brasco Mfg. Co., Harvey, Ill.

PHOTOGRAPHIC PAPER

Kodagraph Autopositive Paper. Booklet describing a silver-sensitized paper for reproducing engineering drawings in normal room lighting using standard blueprint or direct process printers; especially designed for "plus" reproduction of poor tracings. 8 pp., illus. Industrial Photographic Division, Eastman Kodak Co., 343 State St., Rochester 4, N. Y.

LIGHTING

Fluorescent Fixture Selector. A slide-rule device, offered as a time-saver for estimating the number of lighting fixtures needed for desired maintained footcandles of light in a given area. While the Selector features basic fixtures of the Mitchell line, it reportedly also can be used in connection with practically any type of fluorescent fixture. Mitchell Mfg. Co., 2525 Clybourn Ave., Chicago 14, Ill.*

(1) Indirect Lighting at Its Best; (2) Versa-Unit. Describes suspension type luminaires for shielded incandescent lighting; also a new type of parabolic fixture with a flexible arm or swivel mounting. 8 and 2 pp., illus. Kurt Versen Co., Englewood, N. J.

Interior Lighting (B-3539). A booklet for architects, electrical contractors, and lighting engineers, describing the new recessed troffer luminaires, with photographs, sketches, schematic diagrams, illumination design data, and suggested layouts for various conditions. 12 pp., illus. Westinghouse Electric Corp., P.O. Box 868, Pittsburgh 30.*

Powerstat Theater Dimmers (Bulletin 347). Equipment for the control of lighting intensities, with stepless variations from black-out to full brilliancy; also description of a custom-built unit for multiple color blending in store display windows. 4 pp., illus. The Superior Electric Co., Church St., Bristol, Conn.

Thompson Disconnecting and Lowering Hangers. A complete catalog of lamp suspension equipment and accessories, chiefly for industrial installations. Includes a section devoted to application and dimension diagrams. 82 pp., illus., in looseleaf binder. The Thompson Electric Co., 1101-11 Power Ave., Cleveland 14, Ohio.

HEATING

Airtherm Modern Convector Radiation (Bulletin 701). Introduces a new line of convector radiators for hot water and steam systems; dimensional drawings of the three types: free standing or partially recessed, regular wall cabinet, or sloping top wall cabinet; tables for selecting proper convector size. 8 pp., illus. Airtherm Mfg. Co., 702-F S. Spring Ave., St. Louis 10, Mo.

Hoffman Controlled Heat Furnace. Brochure describing an automatic oil-fired furnace for warm-air heating; designed especially for small houses and available in two models, for basement or utility room installation. 4 pp., illus. Hoffman Specialty Co., Indianapolis, Ind. *

I-B-R Ratings for Cast Iron Boilers. Includes ratings for boilers being offered for sale by 18 manufacturers: gross and net ratings, burner capacities, and chimney sizes. Ratings are based on actual output under test, regardless of design, heating surface, or grate area. Burner capacity is the hourly input rate required to develop the gross output, expressed in gallons of oil or pounds of coal. Institute of Boiler and Radiator Manufacturers, 60 E. 42nd St., New York 17, N. Y. *50 cents.*

Trane Presents 8 Pages of Heating Products. Brief description of available heating and air-conditioning units: heating coils, convector-radiators, unit heaters, valves and traps, hot-water circulators, fans, and ventilators. 8 pp., illus. The Trane Co., LaCrosse, Wisc. *

BUILDING MAINTENANCE

Over the Rough Spots. Handbook of floor repair and resurfacing materials for industrial plants; also maintenance procedures for walls, roofs, and sidings; and special problems in railroads, mines, public utilities, and water works. 48 pp., illus. Stonhard Co., 401 N. Broad St., Philadelphia 8, Pa. *

ELECTRICAL FUSES

Pierce Balanced Lag. A description of the significance of balanced lag in electrical fuses, which reportedly avoids unnecessary blows, among other advantages. 4 pp., illus. Pierce Renewable Fuses, Inc., 211–219 Hertle Ave., Buffalo, N. Y.

BLOWERS

Blowers and Exhausters (B-5 Bulletin). Describes basic line of centrifugal-type blowers and exhausters for a variety of industrial uses: capacity tables, design features, and general specifications. 20 pp., illus. Lamson Corp., Allen Billmyre Division, Syracuse 1, N. Y. *

ELECTRIC PLANTS

Electric Plants (Form A-138). Catalog of models ranging from 350 to 35,000 watts, alternating current, in all standard voltages, frequencies, and phases. If direct current of the "direct service" type is required, selection ranges

(Continued on page 150)

*** Other product information in Sweet's File, 1947.**

INSULATION OF CONCRETE FLOORS IN DWELLINGS

Suggestions Based on Research by Housing and Home Finance Agency *

The extensive use in house construction of concrete slab floors, cast on the ground or over unheated crawl spaces, calls for special structural insulation to avoid cold floors. The most effective way is by insulating the concrete floor at its edge and insulating all crawl space walls.

Suggested insulation details grew out of a series of tests ** conducted by the National Bureau of Standards to determine the thermal characteristics of concrete floors. The findings again gave proof of the high conductivity of concrete floors which makes them feel colder to the touch than other floor materials at the same temperature.

The actual (surface) temperature of a concrete floor, however, can be just as satisfactory as other floors if resistance is placed in the paths of greatest heat flow.

The heat loss of slab floors laid on the ground is primarily through the edge. Heat loss through the center is relatively small due to the insulating value of the thick layer of earth beneath it through which heat must flow to reach the outside air.

Over enclosed crawl spaces, heat loss also is principally through the edge, though the loss through the center is relatively higher than with floors laid on the ground.

For comfort, the floor temperature should not fall below 60° F. at approximately 1 ft. from the exterior wall when room temperature is maintained at 70° F. Farther from the wall, the floor will of course be warmer.

When properly insulated, a concrete floor presents a more uniform temperature over the entire surface than do most other floors. Cool air drops down along the inside of all exterior walls, cooling the floor at that point. Since concrete is a better conductor than most materials, heat is conducted more readily from the warmer central portion of the floor to the cooler edges.

In general, conditions of comfort can be obtained by:

1. Insulating the edges of the concrete slab laid on the ground and extending the insulation for a distance under its perimeter.
2. Insulating the slab edges of concrete floors laid over crawl spaces and insulating the exposed wall of the crawl space.

These methods are generally more effective than insulation placed under the entire slab and are easier to install satisfactorily.

Insulating Materials: The selection of insulating materials depends upon several factors: durability; strength to withstand pressure of the earth and imposed loads; relative insulation value; and cost.

Insulating materials placed in or near the ground must resist moisture, mildew, termites, etc. Where a material depends upon a coating of asphalt or coal tar pitch for protection, it is necessary to select the coating carefully, bearing in mind that the solvents in pitch will affect asphalt. This is important where such coated materials are to be used in contact with roofing felt.

The accompanying table contains some information about several insulating materials which might be used; suggested details of construction will be found on the following Time-Saver pages.

(Continued on page 123)

INSULATING MATERIALS FOR CONCRETE FLOORS

Material:	**Cellular Glass Enclosing Sealed-in Gas, such as *Foamglas***	**Glass Fibers with Plastic Binder, such as *Fiberglas*, Coated or Uncoated**
Thickness:	2, 3, 4, and 5 in.	¾, 1, 1½, and 2 in.
R (Resistance Value; per 1 in. thick)	1.82 to 2.22	3.33 to 3.85
Characteristics:	Crushing strength approximately 150 lb. per sq. in. Water absorption negligible. Easily cut, indented, etc. Will not adhere to masonry.	Supports about 12 lb. per sq. in. Water penetration into uncoated board is slow and disintegrates the binder; penetration into coated board is inconsequential unless exposed to constant head of water.
Suggestions:	Surface may gradually spall away if subjected to moisture and freezing. Dip in roofing pitch or asphalt for protection. Use tie wires for attaching to masonry.	Use coated board or apply coal tar pitch or asphalt. Where moisture is expected, coat all cut edges. Follow manufacturer's instructions for cutting.
Material:	**Cane or Wood Fiber Boards, such as *Celotex***	**Hard Cellular Rubber Enclosing Sealed-in Gas, such as *Hard Rubber Board* or *Rubatex***
Thickness:	½, 25/32, 1 in., etc.	½, ¾, 1, 1¼, 1½, and 2 in.
R (Resistance Value; per 1 in. thick)	2.50 to 2.86	4.00 to 5.00
Characteristics:	Crushing strength is adequate. Boards are subject to moisture penetration. Deteriorate under damp conditions.	Crushing strength is approximately 70 lb. per sq. in. Water absorption negligible. Easily cut, indented, etc. Does not adhere adequately to masonry.
Suggestions:	Coat boards and all cut edges heavily with coal tar pitch. Do not use in locations subject to considerable moisture.	Split board with leather splitting machine to reduce costs. Coat with asphalt or pitch, or use metal ties or cement keys where necessary to bond to masonry.

---

* *Abstracted from a report by Laurence Shuman, Mechanical Engineering Adviser, Housing and Home Finance Agency.*

** *Sponsored by Housing and Home Finance Agency; then National Housing Agency. Details are published in Report BMS-103, Government Printing Office, 10 cents.*

3

three mistaken ideas about Sound Conditioning...

mistake #1 **THAT SOUND CONDITIONING IS EXPENSIVE...**

The fact is: The cost of Acousti-Celotex* treatment in many installations hardly exceeds the budget for the finish coats of plaster and paint that it can replace. And where a suspended ceiling may be specified, Acousti-Celotex sound conditioning can often be added for only a few cents more a square foot.

mistake #2 **THAT SOUND CONDITIONING IS A LUXURY...**

The fact is: Letters and figures from thousands of different applications show that, far from being a luxury, Acousti-Celotex sound conditioning is a sound investment . . . because it increases output, cuts down errors, and reduces employee turnover.

mistake #3 **THAT THE USE OF SOUND CONDITIONING IS LIMITED TO SPECIFIC AREAS...**

The fact is: More and more architects are specifying *overall* use of Acousti-Celotex sound conditioning for truly modern buildings offices, hospitals, schools, banks, and other structures. Incidentally, *more sound conditioning has been done with Acousti-Celotex products than with any other material.*

YOU ARE INVITED to submit your acoustical problems to a trained sound technician—your nearest distributor of Acousti-Celotex products. He brings you a judgment enriched by the accumulated experience of a quarter century in sound conditioning . . . and the proved performance of Acousti-Celotex in more than 200,000 installations. Look for him in your classified phone directory, or drop us a line saying when you would like to see him. In the meantime, you'll find Acousti-Celotex products listed in Sweet's File, Section 11-A3.

*REG. U. S. PAT. OFF.

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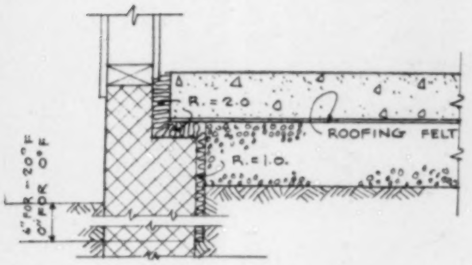
ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

INSULATION OF CONCRETE FLOORS IN DWELLINGS

(Continued from page 120)

Suggestions Based on Research by Housing and Home Finance Agency


R. = 2.0
ROOFING FELT
R. = 1.0
4" FOR -20°F
0" FOR 0°F

INSULATION AT INSIDE OF FOUNDATION WALL

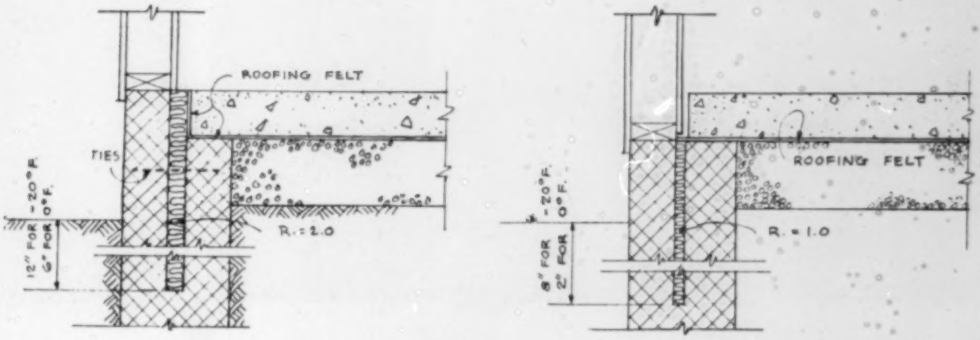
Suggested Details show how heat loss through slab edges can be reduced satisfactorily by placing resistance in the paths of greatest heat flow. The drawings show some unconventional types of construction, the intention being to show insulating principles in graphic form while leaving the construction type to the choice of the designer.

The insulation shown is based on minimum desirable results for a heating design temperature of −20° F. Resistance values "R" are given rather than a specific thickness of insulation. (See Table of Materials on page 120 for resistance values of various materials.)

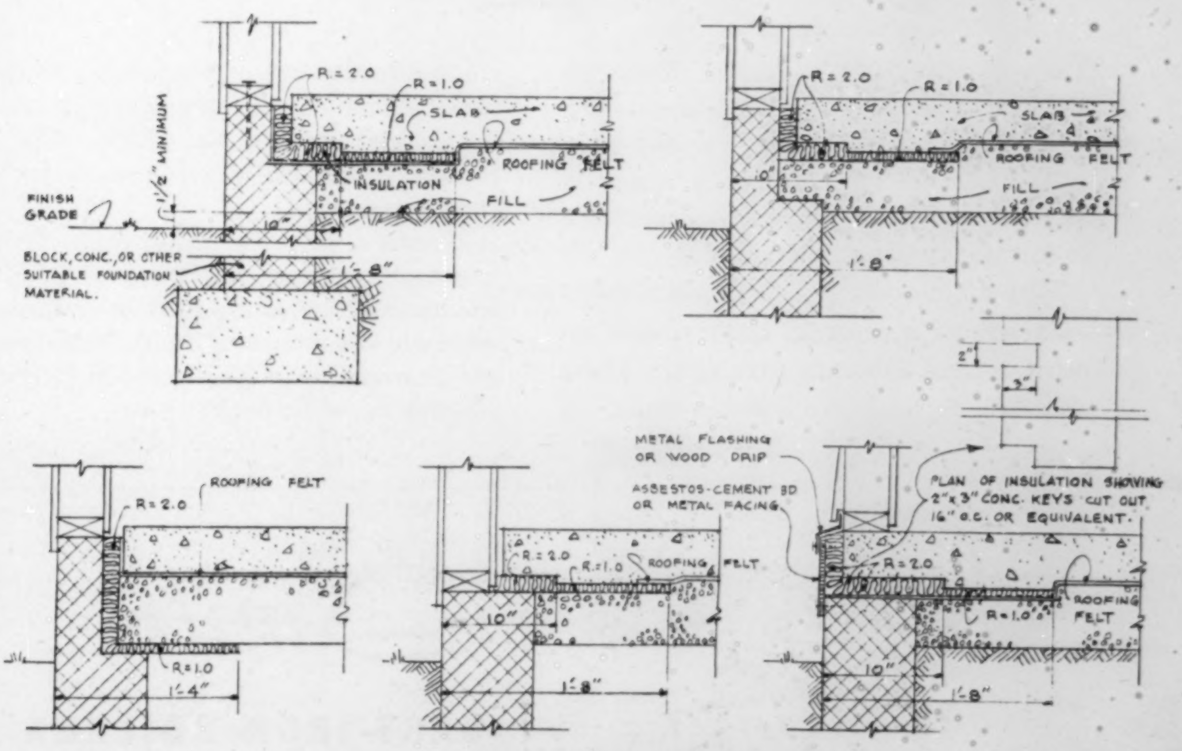
Variations in requirements for other design temperatures and for floor heating are given below.

Design Temperature	Relative Percentage for Values of R*	
	(No Floor Heating)	(Floor Heating)
−20° F.	100%	150%
0° F.	75%	113%
20° F.	50%	75%

* For any homogeneous material, the resistance value (R) varies in proportion to the thickness of the material.

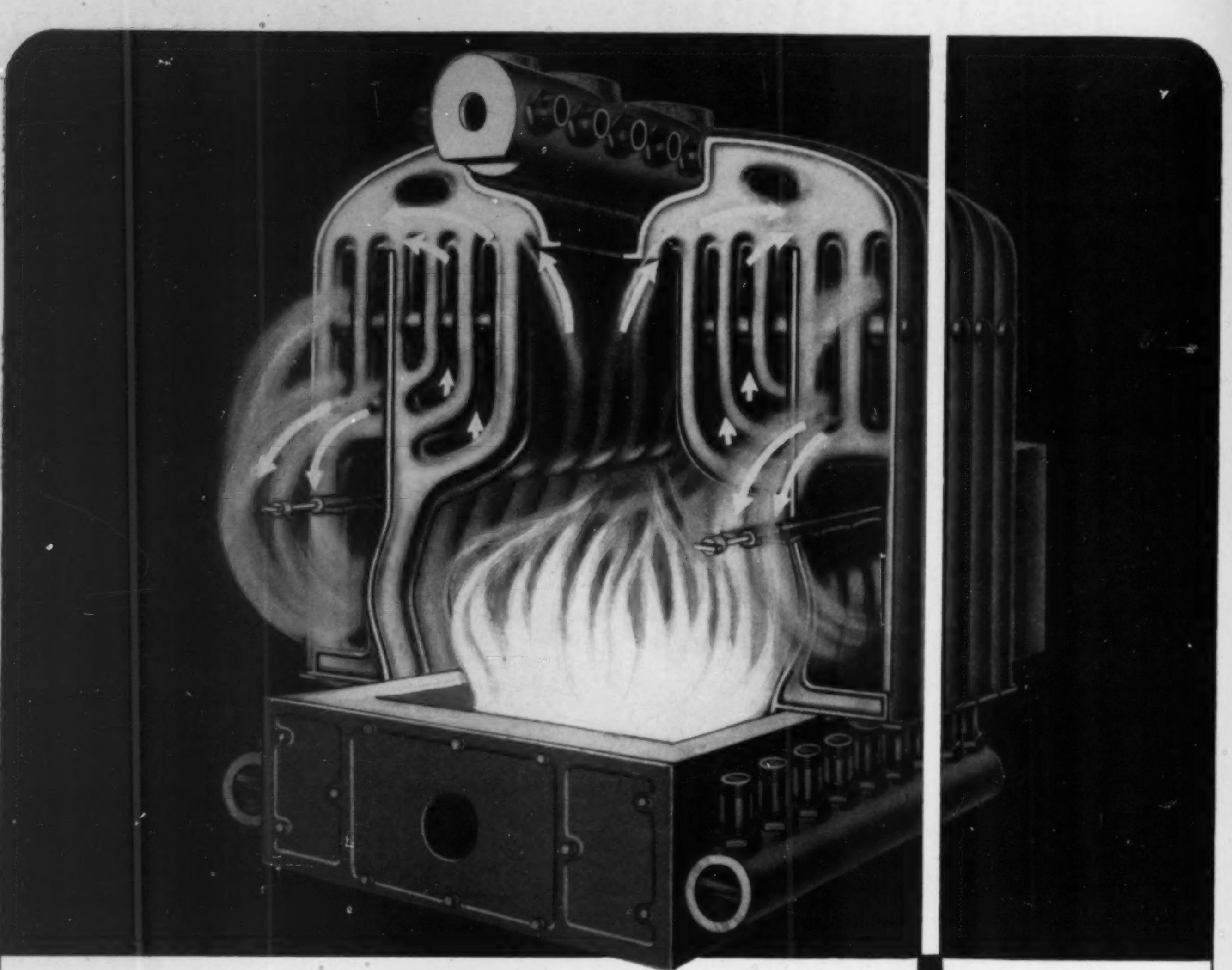

ROOFING FELT
TIES
R. = 2.0
12" FOR -20°F
6" FOR 0°F
ROOFING FELT
R. = 1.0
8" FOR -20°F
2" FOR 0°F

INSULATION AT CENTER OF FOUNDATION WALL


R = 2.0
R = 1.0
SLAB
INSULATION
ROOFING FELT
FILL
1½" MINIMUM
FINISH GRADE
10"
1'-8"
BLOCK, CONC., OR OTHER SUITABLE FOUNDATION MATERIAL.
R = 2.0
R = 1.0
SLAB
ROOFING FELT
FILL
1'-8"
2"
3"
METAL FLASHING OR WOOD DRIP
ASBESTOS-CEMENT BD OR METAL FACING
PLAN OF INSULATION SHOWING 2"x3" CONC. KEYS CUT OUT 16" o.c. OR EQUIVALENT.
R = 2.0
ROOFING FELT
R = 1.0
1'-4"
R = 2.0
R = 1.0
ROOFING FELT
10"
1'-8"
R = 2.0
R = 1.0
ROOFING FELT
10"
1'-8"

CONCRETE SLAB ON GROUND

(Continued on page 125)

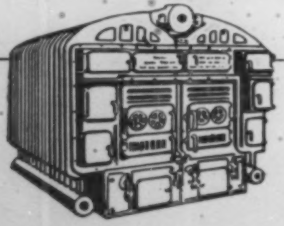


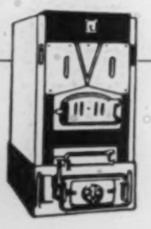
How many boilers do *you* see?

The nine-section Mills 44 boiler illustrated above is actually 18 boilers, guaranteeing you 18 times as much security as any other type boiler. If, for any reason, a section becomes disabled, 17 other boilers continue to function, without interruption!

Why so? Header type construction makes each section a separate boiler — *each* receives returns uniformly from return drums and *each* discharges to a steam drum. A cracked section can be temporarily blocked off by simply cutting its supply and return nipples and plugging the drums. The replacing section can then be installed when convenient.

There's a place for Smith-Mills boilers wherever *continual, uninterrupted, economical* heating is necessary. Other unique and exclusive advantages of Smith-Mills boilers are described thoroughly in the H. B. Smith Catalog . . . write for it.





H.B. Smith

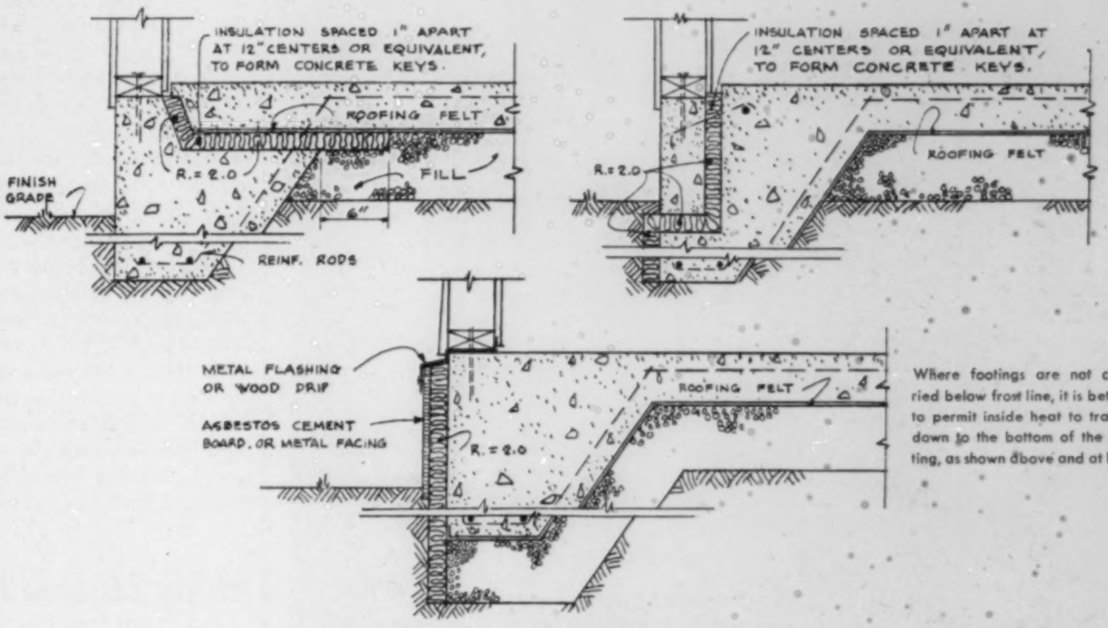
CAST-IRON BOILERS

THE H. B. SMITH CO., INC., 62 Main Street, Westfield, Mass. Offices and Representatives in Principal Cities

INSULATION OF CONCRETE FLOORS IN DWELLINGS

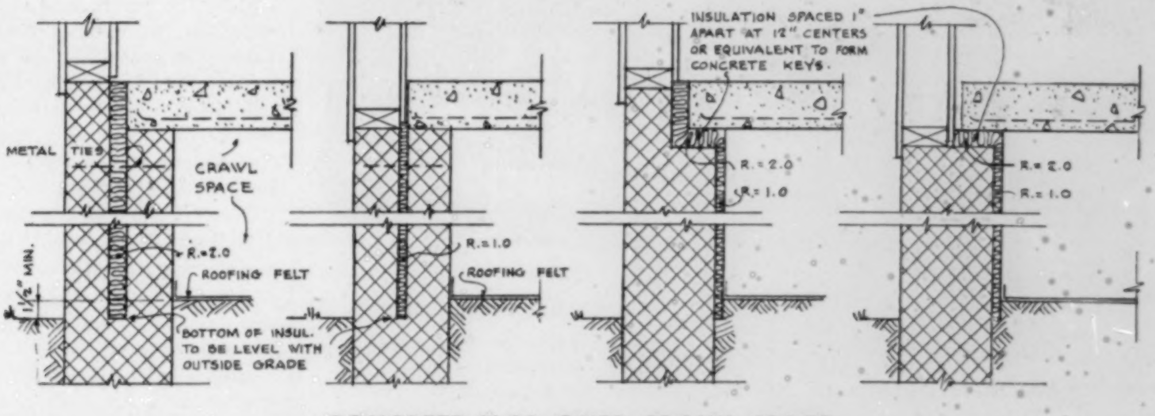
(*Continued from page 123*)

Suggestions Based on Research by Housing and Home Finance Agency

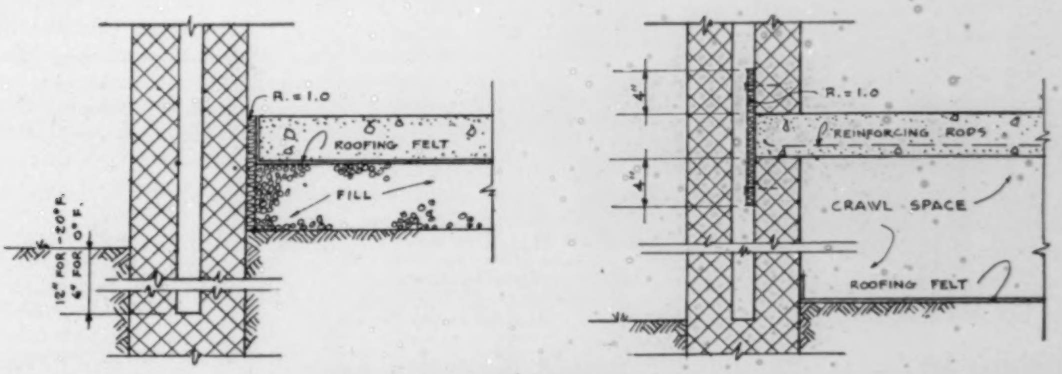

INSULATION SPACED 1" APART AT 12" CENTERS OR EQUIVALENT, TO FORM CONCRETE KEYS.
ROOFING FELT
FILL
FINISH GRADE
R.= 2.0
6"
REINF. RODS
INSULATION SPACED 1" APART AT 12" CENTERS OR EQUIVALENT, TO FORM CONCRETE KEYS.
ROOFING FELT
R.= 2.0
METAL FLASHING OR WOOD DRIP
ASBESTOS CEMENT BOARD, OR METAL FACING
ROOFING FELT
R.= 2.0

Where footings are not carried below frost line, it is better to permit inside heat to travel down to the bottom of the fitting, as shown above and at left

FLOATING SLAB FOUNDATIONS


METAL TIES
CRAWL SPACE
R.= 2.0
ROOFING FELT
1 1/2" MIN.
BOTTOM OF INSUL. TO BE LEVEL WITH OUTSIDE GRADE
R.= 1.0
ROOFING FELT
INSULATION SPACED 1" APART AT 12" CENTERS OR EQUIVALENT TO FORM CONCRETE KEYS.
R.= 2.0
R.= 1.0
R.= 2.0
R.= 1.0

CONCRETE SLAB OVER CRAWL SPACE


R.= 1.0
ROOFING FELT
FILL
12" FOR -20° F. 6" FOR 0° F.
4"
4"
R.= 1.0
REINFORCING RODS
CRAWL SPACE
ROOFING FELT

CAVITY WALLS

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Building Directories
Bulletin Boards
Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Cast Thresholds
Extruded Thresholds
MI-CO Parking meters
Museum Trophy Cases

The Michaels Art Bronze Company, 234 Scott St., Covington, Ky.

Member of the National Association of Ornamental Nonferrous Metals Manufacturers

THE RECORD REPORTS

(*Continued from page 16*)

Other Developments

Here's a quick glance at other construction developments:

1. The Veterans Adminstration has inaugurated a new plan of inspection of houses while they are under construction. Optionally available to builders, lenders, etc., the plan provides a definite commitment as to "reasonable value" in advance of construction for sale to veterans under the G.I. Bill.

2. The Commerce Department has extended its export controls to include additional iron and steel products. It is continuing its controls on lumber.

3. The Civil Aeronautics Administration has set maximums on length and strength of airport runways for which federal money will be supplied.

4. HHFA has announced a new publication to be issued at frequent intervals called "HHFA Technical Bulletin." The first issue deals with lower costs through codes, housing research, insulation of concrete floors, and earth constructions.

◆ ◆ ◆

ON THE CALENDAR

Dec. 1–Feb. 29: Exhibition of French tapestries of the 14th to 20th Centuries, lent by the government of France. Metropolitan Museum of Art, New York City. (See page 10.)

Jan. 10–29: "Arts of Early People," exhibition from the anthropology collection of the University, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

Jan. 12–16: 2nd National Materials Handling Exposition, Public Auditorium, Cleveland, Ohio.

Jan. 21–24: Annual Meeting, American Society of Civil Engineers, Hotel Commodore, New York City.

Jan. 26–29: 5th All-Industry Refrigeration and Air Conditioning Exposition, Public Auditorium, Cleveland, Ohio.

Jan. 26–30: Winter General Meeting, American Institute of Electrical Engineers, Pittsburgh, Pa.

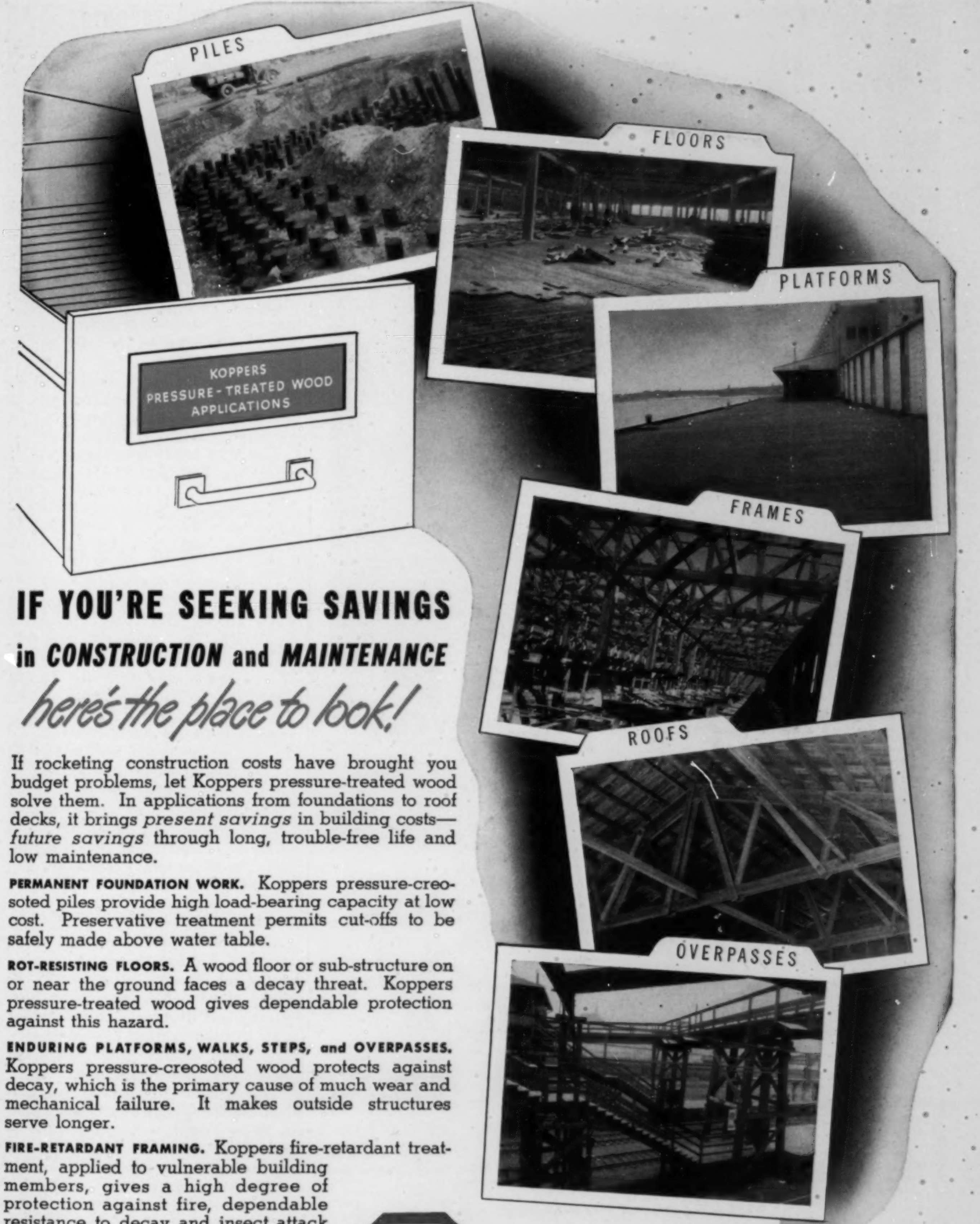
Feb. 2–6: Air Conditioning Exposition (8th International Heating and Ventilating Exposition), Grand Central Palace, New York City.

Feb. 7–26: "French Prints from Corot to Picasso," exhibition of drawing, etching and lithography, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

Feb. 11–12: Building Forum and Clinic, Pennsylvania State College, State College, Pa. (Registration limited; see page 136 for details.)

March 2, 4, 8, 10, 11: Series of public

(*Continued on page 128*)



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PERMANENT FOUNDATION WORK. Koppers pressure-creosoted piles provide high load-bearing capacity at low cost. Preservative treatment permits cut-offs to be safely made above water table.

ROT-RESISTING FLOORS. A wood floor or sub-structure on or near the ground faces a decay threat. Koppers pressure-treated wood gives dependable protection against this hazard.

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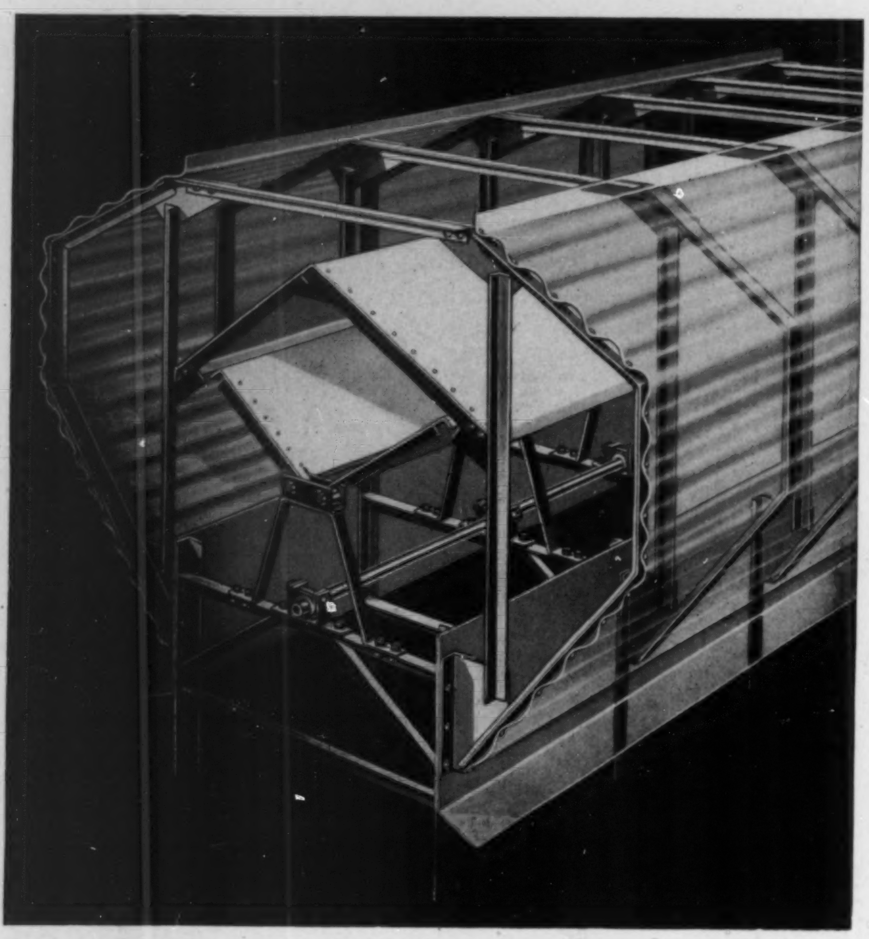

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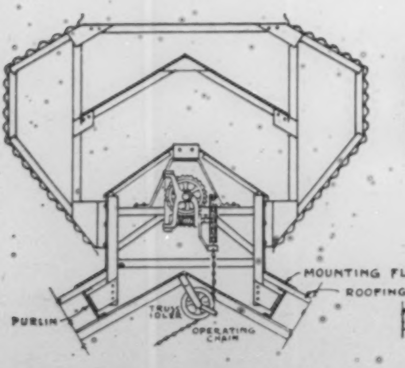
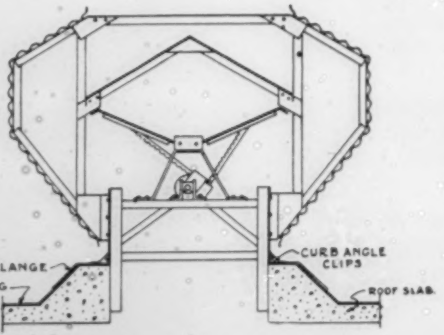


TYPICAL MOUNTING FOR PITCH ROOF. Showing Damper closed and Operator Control.



MOUNTING FOR CURB ROOF. Showing Damper open with Rack and Pinion Operators.

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THE RECORD REPORTS

(*Continued from page 126*)

lectures, "Cities in Transition — The Causes and Consequences of Metropolitan Decentralization," Frick Chemical Laboratory, Princeton University, Princeton, N. J. (See p. 134.)

March 6: Symposium on Educational Buildings, sponsored by the Pennsylvania Society of Architects, Houston Hall, University of Pennsylvania, Philadelphia.

March 6–20: "Eckbo, Royston and Williams," exhibition of landscape architecture, School of Architecture and Allied Arts, University of Oregon, Eugene, Ore.

March 15–19: 6th Annual A.S.T.E. Industrial Exposition, and 16th Annual Meeting, American Society of Tool Engineers, Cleveland, Ohio.

March 22–24: 1948 Chicago Production Show and Technical Conference, Chicago Technical Societies Council, Stevens Hotel, Chicago, Ill.

CONSTRUCTION REPORT

Investments in construction amounting to $793,286,000 in October in the 37 states east of the Rocky Mountains, reports F. W. Dodge Corporation, pushed the chart lines upward to a level 22 per cent higher than the volume shown for the previous month and 38 per cent higher than in October of last year, to bring the cumulative total for the first 10 months of 1947 to $6,419,397,000, almost even with that reported for the corresponding period of 1946.

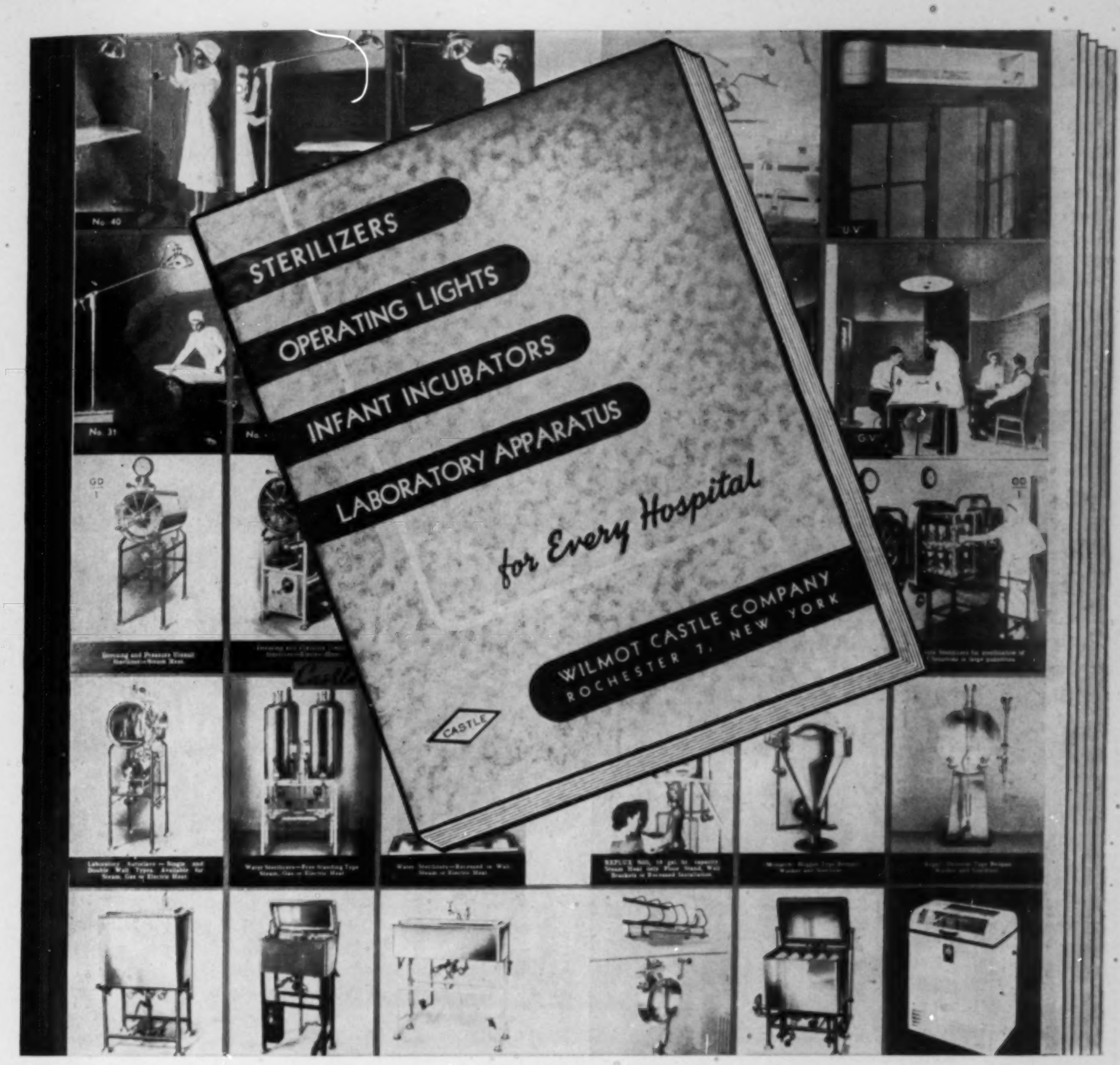
The greatest October gains compared with September were shown for Texas, up 85 per cent; southern Ohio and Kentucky, up 67 per cent; western Missouri, Kansas, Nebraska and Oklahoma, up 54 per cent; upstate New York, 51 per cent; and New England, 41 per cent.

Gains in October construction contract volume over September were reported for all other areas east of the Rocky Mountains except western Pennsylvania and West Virginia, down 12 per cent; the northern and eastern areas of Ohio, down 4 per cent; Minnesota and the Dakotas, down 1 per cent.

The strongest advances were in residential building contracts, October gains of 30 per cent over September and 49 per cent over October of last year being reported, with the cumulative volume of the first 10 months of the year being 3 per cent below that for 1946.

Nonresidential contracts in October totaled 16 per cent more than in September and 23 per cent more than in October, 1946, the cumulative 10-month total being 7 per cent less than that shown for the comparable period of last

(*Continued on page 130*)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year, while heavy engineering volume was 17 per cent greater than in September and 47 per cent higher than in October, 1946, with the 10-month total up 12 per cent.

Various governmental agencies awarded contracts amounting to $208,947,000 in the eastern states in October, to bring the cumulative total of contracts let for projects classified as publicly owned this year to $1,865,363,000, which is 29 per cent of all construction contracts awarded.

WHAT THEY SAY . . .

About Housing

"In attempting to speed up construction of homes it should be understood that it is not possible to successfully divorce housing from the rest of the construction industry. Any attempt to make the building of houses a healthy, vigorous enterprise and, at the same time, neglect or cripple the rest of the industry by artificial restrictions cannot succeed. The industry does not work that way. Such an attempt is like trying to build a man's right arm into a healthy vigorous member and at the same time kill the rest of his body."

— MAX H. FOLEY
Architect

"The government will have to make a choice as to whether it is going to encourage construction of the maximum number of homes for veterans or cut back the volume of home building by curtailing mortgage credit as part of an overall campaign to combat inflationary forces. . . . Home building reached an all-time peak several months ago and has continued at a rate approaching one million homes a year for several months. The spurt came almost immediately after the cumbersome emergency controls on residential construction were removed.

"In just four months after June 30, 1947, the number of new housing units started rose from 75,000 to 92,000 a month, a gain of 23 per cent. Obviously no action should be taken to reduce this high level of home building until alternative possibilities have been weighed carefully.

"Should the volume of private building be reduced, there is sure to be a renewed insistence on a large program of public housing to be financed by the government, and the building of additional homes at public expense would be just as inflationary as an equal amount of privately built housing."

— DOUGLAS WHITLOCK
Chairman, Building Products Institute

About Materials

"The coming year will see a further improvement in the supply of the vast majority of materials, and a continued building up of dealers' inventories. This forecast must be qualified, however, in view of the announcement that the Administration is seeking authority for allocation and control over the use of basic products. Even though housing or construction as a whole might receive favorable treatment in such a control system, the imposition of controls could seriously interfere with the progressive reestablishment of orderly markets.

"The degree of materials shortages next year also will partly depend upon ultimate decisions in respect to foreign aid. So far as building materials are concerned, the indirect impact of a foreign-aid program, accompanied by steel and freight car shortages, is likely to be more important than direct demands for building products . . .

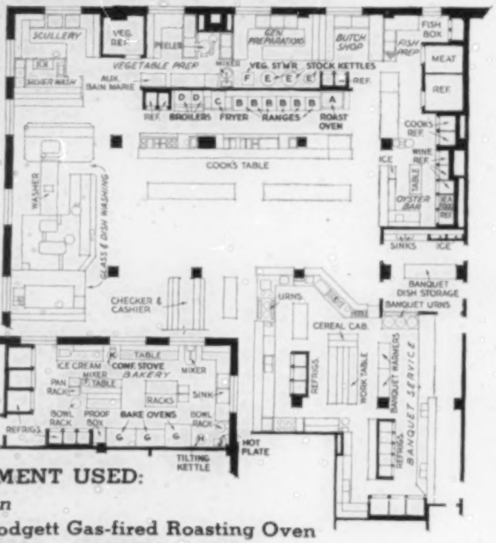
"For 1948 we anticipate a smaller list of short products. Structural steel, reinforcing bars, sheet steel for warm

(Continued on page 132)

KITCHEN PLAN NO. 44: Forty-fourth of a series of successful mass-feeding installations.

Smooth, easy traffic flow to general restaurants and banquet service characterizes this modernized kitchen in the Hotel Roanoke, Roanoke, Virginia.

KEEP FOR HANDY REFERENCE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PEELER
GEN. PREPARATION
BUTCH SHOP
FISH PREP
FISH BOX
MEAT
REF.
ICE
SILVER WASH
VEGETABLE PREP
MIXER
VEG. ST'M'R
STOCK KETTLES
AUX. BAIN MARIE
REF.
F
E
E
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D
C
B
B
B
B
B
B
A
REF.
BROILERS
FRYER
RANGES
ROAST OVEN
COOKS TABLE
COOKS REF.
WINE REF.
ICE
TABLE
OYSTER BAR
SEA FOOD REF.
SINKS
ICE
WASHER
GLASS & DISH WASHING
CHECKER & CASHIER
URNS
BANQUET DISH STORAGE
BANQUET URNS
CEREAL CAB.
REFRIGS.
WORK TABLE
BANQUET WARMERS
BANQUET SERVICE
REFRIGS.
K
TABLE
ICE CREAM
CONF. STOVE
MIXER
MIXER
TABLE
BAKERY
PAN RACK
RACKS
SINK
BOWL RACK
PROOF BOX
BAKE OVENS
BOWL RACK
REFRIGS.
G
G
G
H
HOT PLATE
TILTING KETTLE

COOKING EQUIPMENT USED:

Main Kitchen

- (a) 1 No. 952 Blodgett Gas-fired Roasting Oven
- (b) 6 Gas-fired Ranges with 1 Salamander
- (c) 1 Gas-fired Deep Fat Fryer
- (d) 2 Broilers
- (e) 3 Stock Kettles
- (f) 1 Vegetable Steamer

Bakeshop

- (g) 2 No. 963 Blodgett Gas-fired Baking Ovens (and 1 existing oven)
- (h) 1 Trunnion Kettle
- (j) 2 Burner Gas-fired Hot Plate
- (k) 1 Gas-fired Bakers' Stove

TECHNICAL DATA
IDEAS – ADVICE
INFORMATION
CONSULT YOUR
FOOD SERVICE
EQUIPMENT DEALER
HE IS AN EXPERT ADVISOR AND COUNSEL

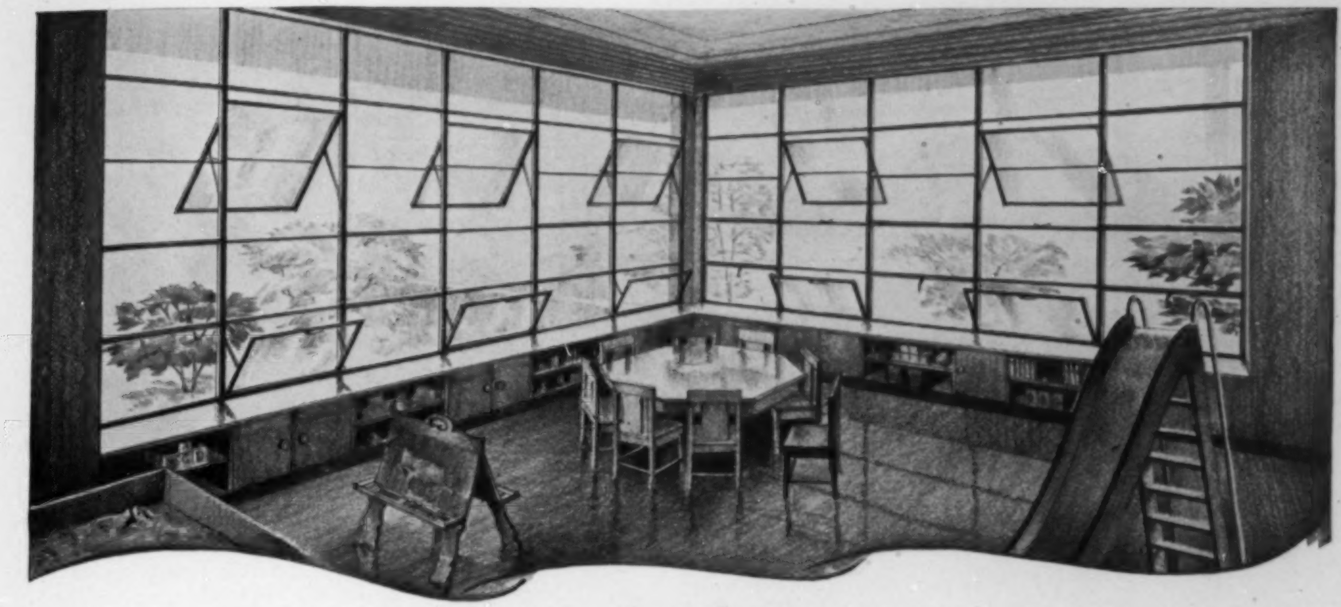
Designed by John G. Kolbe, John G. Kolbe, Inc., Richmond, Virginia
Fabricated by The John Van Range Company, Cincinnati, Ohio

The Hotel Roanoke service ranges from typical coffee shop and counter feeding through a la carte and banquet service. One notably clever arrangement is that which eliminates entry of banquet waiters into the kitchen area. The 952 Blodgett Gas-fired Oven used in the roasting section has two separately controlled sections loading as much as 360 pounds. In the bakeshop (plan of which is superimposed on elevator and passageway area) two 3 section No. 963 Blodgett Gas-fired Baking Ovens totalling 12 pans capacity furnish the bakers extreme flexibility and ease of operation.

The G. S. BLODGETT CO., Inc.

50 Lakeside Avenue   Burlington, Vermont

Send for your copy of the new, deluxe "Case Histories of Successful Mass Feeding Operations" now!

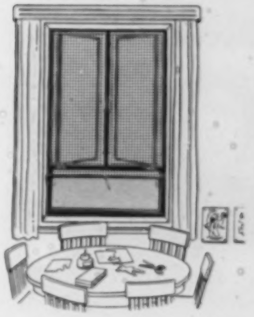


More Daylight—
WITH BETTER VENTILATION AS A BONUS!

When you plan larger daylighting areas, why not take advantage of the opportunity the larger wall opening affords for better ventilation?

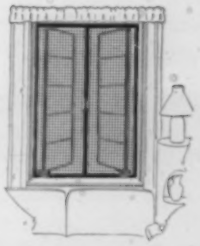
With Fencraft Projected Windows, large steel-strengthened areas of glass flood the room with daylight. All-weather ventilation is provided by two vents in each window unit. One opens out to form a canopy over the opening—to shed rain and snow. A sill vent opens in—deflecting incoming air upwards to prevent direct drafts. This vent likewise sheds rain and snow to the outside.

They're economical windows, too. Lower cost—in both manufacturing and installation—has been accomplished by standardization. Fencraft Window units conform with modular dimensions of modern construction practice. Yet the variety that is achieved in making these windows of standard sections enables you to have all the design flexibility you wish, without the cost of "specials". There's a great range of types and sizes—in Projected, Combination and Casement Windows. That means a *right* window for every use—designed right . . . made right. See your Sweet's Architectural File for full information. Or mail the coupon.



FENCRAFT COMBINATION WINDOW

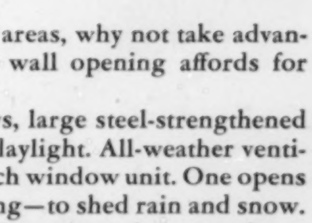
Generous fresh-air ventilation. Swing leaves deflect breezes into the room. In-tilting sill vent protects against drafts. Both sides easily and safely washed from inside.



FENCRAFT CASEMENT WINDOW

Safe washing on outside, from inside. Easy to operate. Interchangeable inside screens, protected from outside dirt.

Fenestra



FENCRAFT INTERMEDIATE STEEL WINDOWS

Detroit Steel Products Company,
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Detroit 11, Michigan

Please send me data on types and sizes of the new Fencraft family of Fenestra Windows:

Name____________________________________

Company________________________________

Address_________________________________

THE RECORD REPORTS

(Continued from page 130)

air furnaces, duct work, downspouts and gutters and nails will remain hard to get. Cast iron soil pipe may still be tight during the first few months of the year. The freight-car shortage will not be fully overcome during 1948, which means continuation of distribution problems even where output is adequate.

"Lumber including millwork and hardwood flooring promises to be in sufficient supply. . . . Inventories will improve though they will probably not be up to normal standards."

— DAVID S. MILLER
President, The Producers' Council

"In 1947 the industrial economy of the United States was strengthened by the production of more than 84,000,000 tons of steel, a tonnage greater than ever made before in a peacetime year. . . .

"The supply of certain types of steel is still less than current abnormal demand despite the industry's prodigious feat in 1947. The principal reason for continued inability to meet every demand for steel has been the loss of more than 18,000,000 tons since the end of the war as the result of strikes and work stoppages.

"Steel production in 1948 should equal or exceed the output of 1947. . . ."

— WALTER S. TOWER
President, American Iron and Steel Institute

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42 years of experienced leadership, plus high-grade materials and workmanship, assure you finest quality in every unit. All working surfaces are of Kewaunee's patented KemROCK for defiant resistance to acids, alkalies, solvents, abrasion and shock.

Our Hospital Engineering Staff is available to Architects without cost or obligation. WRITE —

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Representatives in Principal Cities

NEW WELL-DRILLING LAWS IN NEW JERSEY

The attention of all contractors doing work in New Jersey has been called to new laws regulating the drilling of wells for water supply in that state. The laws were enacted because the water supplies of a number of communities was seriously threatened by encroaching salt water as the result of over-pumpage.

Chapter 375, Laws of 1947, is an Act which gives the Division of Water Policy and Supply, State Department of Conservation, the right "to delineate . . . areas . . . where diversion of sub-surface waters exceeds or threatens to exceed . . . the natural replenishment of such waters." Within such areas no one shall hereafter pump in excess of 100,000 gal. of water a day without first obtaining a permit from the Division.

The second act, Chapter 377, Laws of 1947, was designed to control the drilling of new wells through the licensing of well drillers, and it also makes it obligatory for the owner to secure a permit from the Division of Water Policy and Supply before commencing any new well. Copies of the new laws may be obtained from the Division of Water Policy and Supply, 28 W. State St., Trenton, N. J.

NEW A.S.A. SECRETARY

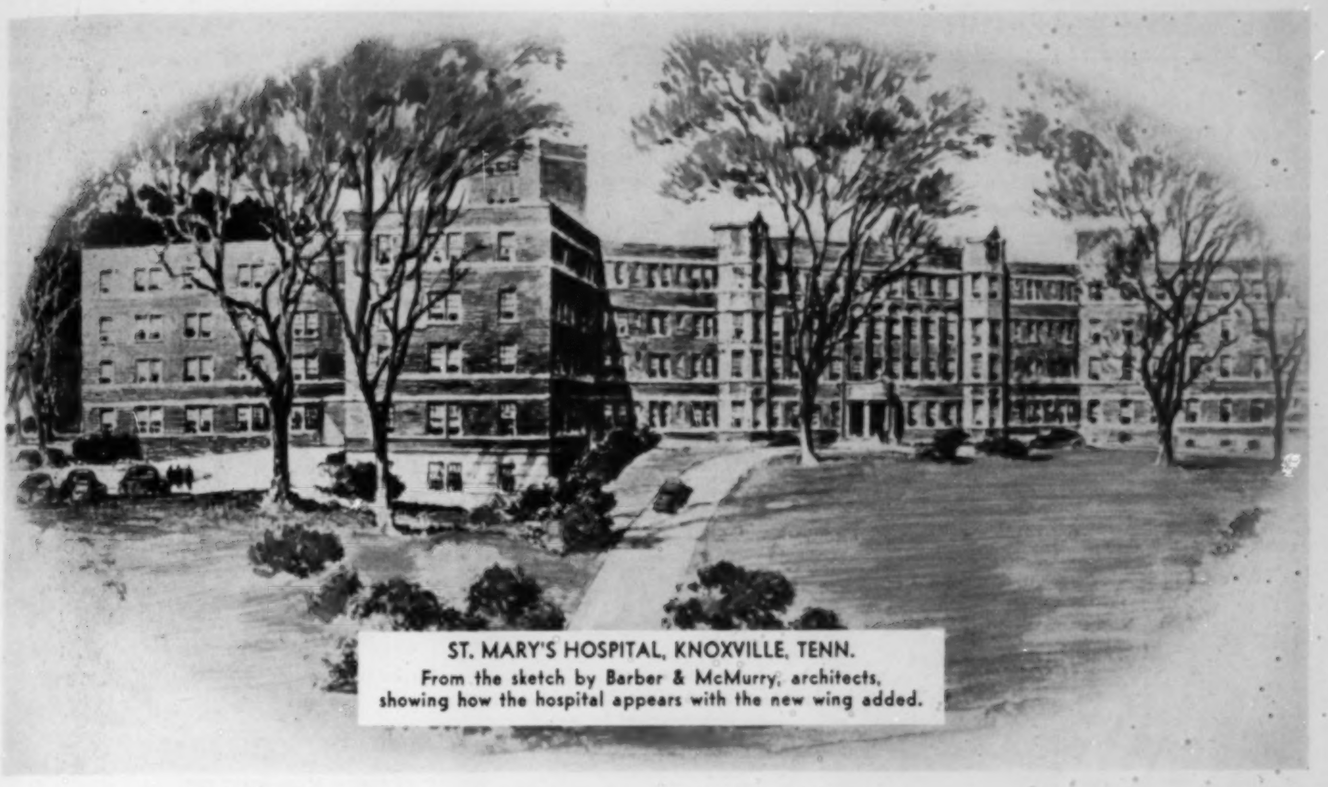
Vice-Admiral George Frederick Hussey, Jr., USN (Ret.), has been appointed secretary of the American Standards Assn. to succeed Dr. P. G. Agnew, secretary and head of the A.S.A. staff for the past 28 years. Dr. Agnew is remaining with the Association as consultant.

Admiral Hussey, a graduate of the Naval Academy, was Chief of the Bureau of Ordnance of the Navy Department from December, 1943, until his retirement on December 1. Admiral Hussey will be assisted in his A.S.A. duties by Cyril Ainsworth, for many years in charge of the technical activities of the Association, who has been appointed director of operations of the A.S.A. staff.

TOWN PLANNERS UNITE

Thirty-five consultants, architects and engineers engaged in one phase or an-

(Continued on page 134)



ST. MARY'S HOSPITAL, KNOXVILLE, TENN.
From the sketch by Barber & McMurry, architects, showing how the hospital appears with the new wing added.

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THE multiple function wall finish

Here is another case where architects and hospital authorities, discriminating in their tastes and opinions, selected FABRON for the finish of interior walls and ceilings of the new building they had planned. FABRON was thus included in the architect's **original specifications.**

To the architect, FABRON offers a finish that completes the structure and decorates the wall . . . that reinforces sub-surface materials . . . that serves as a wall-protective agent.

To hospital authorities, FABRON appeals because it can be easily cleaned . . . because it prevents plaster cracks . . . because it affords years of uninterrupted service, eliminating periodic redecorations,—all of which result in operating economies.

Furthermore, FABRON colors are sunfast and are based on advanced ideas of color therapy. And FABRON **prevents fire spread,** thereby increasing fire safety.

FABRON fits well within the average appropriation. Its initial cost need not be higher than that of conventional good-quality decorative treatments on new walls. Its cost-to-use makes FABRON the most economical finish for walls and ceilings of all types of buildings.

Our Advisory Department will gladly cooperate with architects and their decorators in estimating costs, establishing color schemes, submitting samples etc. Cost free, of course.

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SEE OUR CATALOG IN SWEET'S

other of town planning in Canada already have joined the newly formed Institute of Professional Town Planners in Ontario. The Institute was formed "for the purpose of promoting the science and art of town and community planning and the knowledge of the members in the practice of the profession of town and community planning." Officers are: *president*, Tracy D. LeMay; *vice-president*, John Kitchen; *secretary-treasurer*, E. G. Faludi; *directors*, John Layng, John van Nostrand and Gordon Culham. Headquarters of the Institute has been established at 24 Bloor St. E., Toronto 5, Canada.

INSTRUCTORS NEEDED

Additional instructors in Architectural Design and related courses are needed at the schools of architecture for the spring and fall semesters, reports Paul Weigel, chairman, Committee on Employment for the Association of Collegiate Schools of Architecture. Requests for further information and applications for the teaching positions should be sent to Mr. Weigel at Kansas State College, Manhattan, Kansas.

THE ANSWERS TO ARCHITECTS' QUESTIONS ABOUT TILE

- Is it chip-proof? A big YES, also won't crack or peel.
- Is it waterproof and fireproof? Absolutely, also impervious to alkali and resists stain.
- Is it light in weight compared with other kinds of tile? Yes, light as a feather.
- Is there a low cost advantage over other tiles? Metal Tile costs about one-half that of other tile.

You won't go wrong investigating Hastings Aluminum Wall Tile, the amazing ceramic-like tile, so easy to apply—goes over dry smooth surface with mastic cement as base.

Available in 12 beautiful colors: Gleaming White, Cream, Peach, Dubonnet, Apple Green, Dark Green, Canary Yellow, Black, Light Blue, Dark Blue, Ivory and Flame Red—from which virtually unlimited color combinations are obtainable.

SIZES: Field Tiles, 5" x 5"; Trim Tile, Cap., 2½" x 5"; Stripe, ⅝" x 5"; Base 5" x 5". Also outside corners and wall plates for electrical outlets, available in matching colors.

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COURSES PLANNED FOR GRADUATE ENGINEERS

Designed to aid the engineer just out of college and starting his professional career, a series of "universities" in key cities throughout the nation, staffed by practicing members of the profession, has been announced by The American Society of Mechanical Engineers.

The Engineers' Council for Professional Development is sponsor of the plan. Under its chairman, James W. Parker of Detroit, the pilot operation of the plan is already under way in Detroit, where the Council will work with the local engineering society and its affiliates to give courses, lectures and consultations to engineer graduates. Several other cities are initiating similar programs.

AT THE COLLEGES

Fellowship Revived

For the first time since 1942 the James Harrison Steedman Memorial Fellowship Competition sponsored by the School of Architecture of Washington University is to be held in the spring of 1948.

Carrying an award of $3000 for a year of travel and study abroad, the Steedman Fellowship is open to all graduates in architecture of accredited architectural schools of the United States. Candidates must be American citizens, between 21 and 31 years old, and must have had at least one year of practical work in the office of an architect, including one year's residence in St. Louis, Mo.

Requests for further information and for application blanks should be sent to the Chairman of the Department of Architecture of Washington University, St. Louis 5, Mo. Applications must be returned not later than January 31, 1948.

Public Lectures at Princeton

The Princeton University Bureau of Urban Research is sponsoring a series of public lectures called "Cities in Transition — The Causes and Consequences of Metropolitan Decentralization." Five in number, the lectures will be held in the auditorium of the Frick Chemical Laboratory at Princeton. The schedule is as follows:

March 2, 7:45 p.m. — "The Changing Pattern of the Modern City." Speaker, Philip M. Hauser, Assistant Director, Bureau of the Census (on leave), and Professor of Sociology, University of Chicago.

March 4, 4 p.m. — "Time, Space, and the City's Physical Readjustment." Speaker, Henry S. Churchill, Architect, City Planner, and member of firm of

(Continued on page 136)

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Churchill-Fulmer Associates.

March 8, 4 p.m. — "The Economic Theory of Urban Expansion." Speaker, Homer Hoyt, Urban Real Estate Consultant, Economist, Lecturer, and member of firm of Homer Hoyt Associates.

March 10, 7:45 p.m. — "Governmental Problems of Urban Decentralization." Speaker, Austin J. Tobin, Executive Director, The Port of New York Authority.

March 11, 7:45 p.m. — "The Defense of Cities in Aerial Warfare." Speaker, Ansley J. Coale, Assistant Professor of Economics, Princeton University.

A discussion period will follow each of the five lectures.

Building Forum and Clinic

The Department of Architecture of Pennsylvania State College has announced a Building Forum and Clinic to be held on the College's campus at State College, Pa., February 11–12. Speakers and their subjects will include: W. H. Scheick, Coordinator, Small Homes Council, University of Illinois, "Housing Design Trends"; Prof. W. Coutu, Pennsylvania State College, "Sociological Aspects of Housing"; Tyler S. Rogers, past president, Producers' Council, and now with the Owens-Corning Fiber Glass Co., "Materials Development"; G. J. Lauter, Director, Associated General Contractors of America, "Architect-Contractor Relations." Because of limited accommodations, registration is open only to residents of Pennsylvania.

Appointment

Western Reserve University has announced the appointment of Hermann H. Field, A.I.A., as Director of Building Plans for Cleveland College. Mr. Field, formerly with Antonin Raymond and L. L. Rado, New York architects, will develop the requirements and overall plan for a new downtown college center in Cleveland, and will also participate in the work of the architectural faculty of Western Reserve School of Architecture.

OFFICE NOTES

Offices Opened, Reopened

Richard R. Hansen, Architect, has opened offices for the practice of architecture and community planning at 1201 E. 63rd St., Kansas City 5, Mo.

F. Albert Hunt, Architect, has opened an office for the practice of architecture at 4 Purdy Ave., Rye, N. Y.

Leon Hyzen, Architect, associated with Raymond Loewy Associates for the past five years as head of the Chicago office architectural and store planning division, has opened his own offices at 53 W. Burton Pl., Chicago 11, Ill., for consultation in architecture, store planning and industrial design. He plans to cooperate with outside firms in these various fields. During the war Mr. Hyzen served as site planner on the Bermuda Army Post, chief site planner of the Bainbridge Naval Training Station, and as assistant construction manager of the Dodge Chicago Plant.

George Nelson has opened an office for the practice of architecture and industrial design at 343 Lexington Ave., New York 16, N. Y.

Seiichi Washizuka, Architect, formerly with the John B. Pierce Foundation, has reopened his office for the general practice of architecture at 16 1-chome, Shimbashi, Minato-ku, Tokyo, Japan.

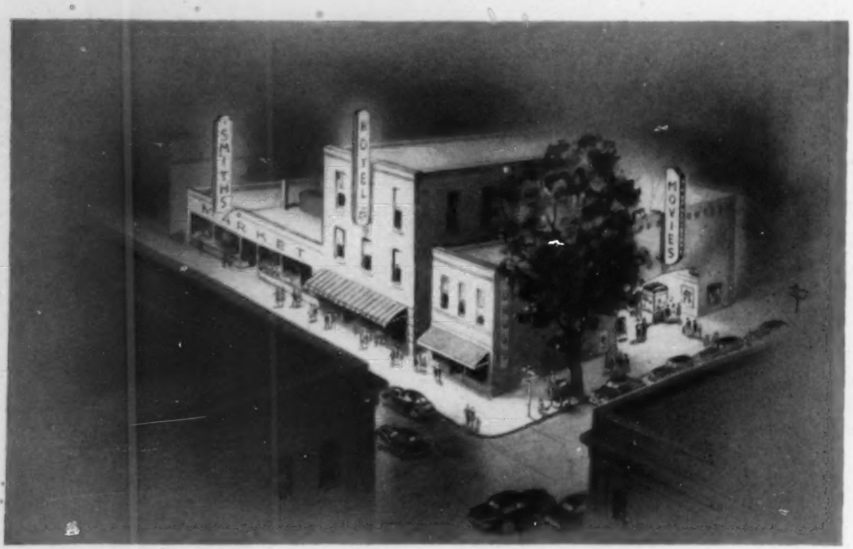
New Addresses

The following new addresses have been announced:

Van Evera Bailey, A.I.A., 826 Brent Ave., S. Pasadena, Calif.

Carl W. Clark, A.I.A., 625 James St., Syracuse 3, N. Y.

(Continued on page 138)



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You can't afford gold-braided doormen for that store at 4th and Main. No luxurious "extras" of any kind.

And yet you know, from costly experience, that air conditioning for this store is a *must*. You know that next summer will be hot and sticky . . . that shopping is wearying work . . . and that women will give their patronage to stores and shops that are comfortably cooled.

So it isn't a question of *whether* you need comfort cooling at 4th and Main. The question is: How much can your store afford?

USAIRCO has the profitable, business building answer in its 3 great comfort cooling systems . . . each a pre-engineered package unit . . . each available in a variety of sizes to meet any requirement.

Refrigerated Kooler-aire delivers the ultimate in air conditioning . . . *Cold Water Kooler-aire* is designed for those locations where 55° water is available . . . *Evaporative Kooler-aire* gives washed and filtered air cooling at *"pennies-a-day"* costs. USAIRCO co-operating engineering counsel is available for correct installation.

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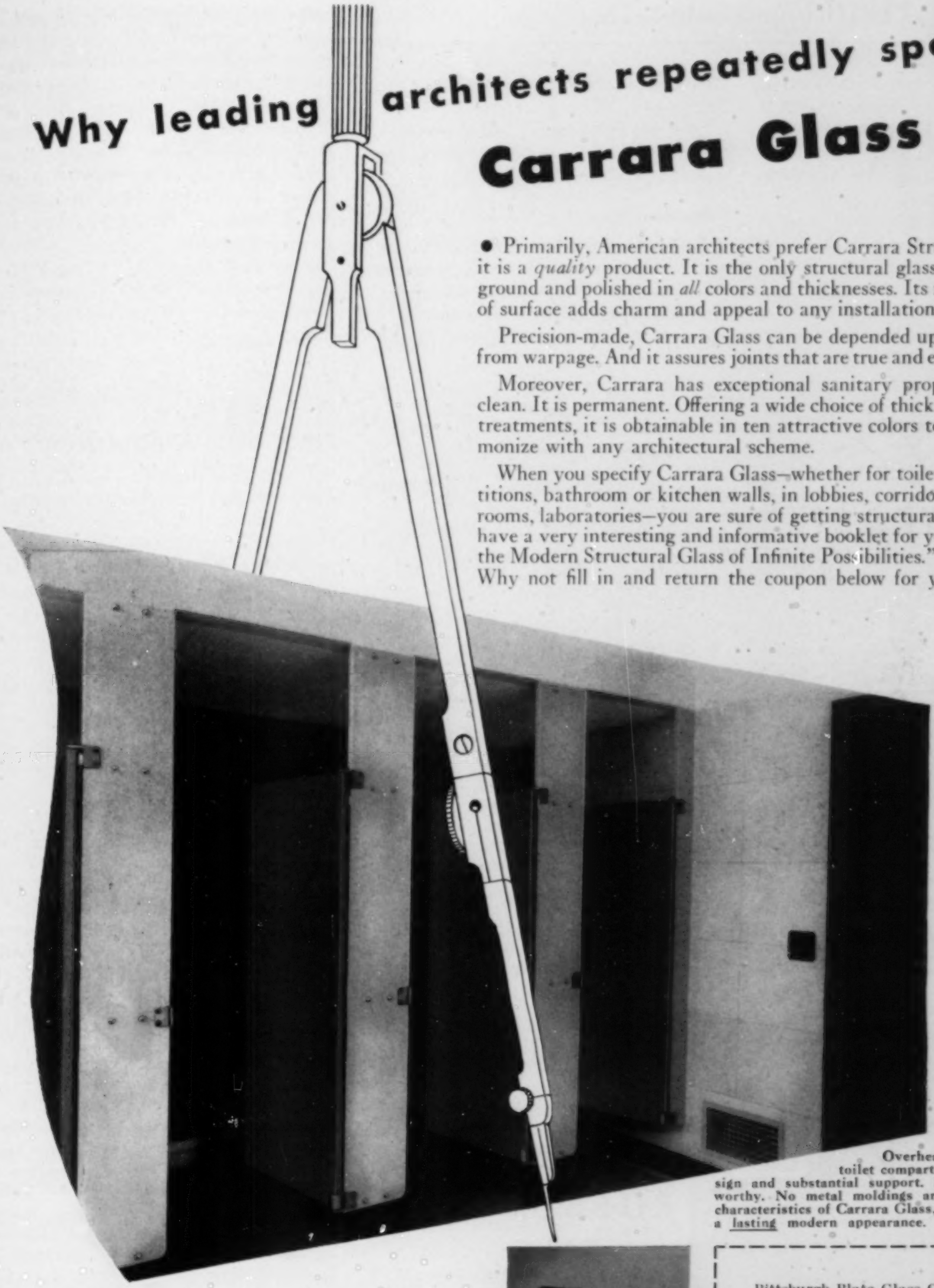

- Primarily, American architects prefer Carrara Structural Glass because it is a *quality* product. It is the only structural glass that is mechanically ground and polished in *all* colors and thicknesses. Its rich, perfect brilliance of surface adds charm and appeal to any installation.

Precision-made, Carrara Glass can be depended upon to be entirely free from warpage. And it assures joints that are true and even—without lippage.

Moreover, Carrara has exceptional sanitary properties. It is easy to clean. It is permanent. Offering a wide choice of thicknesses and decorative treatments, it is obtainable in ten attractive colors to complement or harmonize with any architectural scheme.

When you specify Carrara Glass—whether for toilet room walls and partitions, bathroom or kitchen walls, in lobbies, corridors, hospital operating rooms, laboratories—you are sure of getting structural glass at its best. We have a very interesting and informative booklet for you, entitled "Carrara, the Modern Structural Glass of Infinite Possibilities." It is fully illustrated. Why not fill in and return the coupon below for your free copy, now?

Overhead supported Carrara Glass toilet compartments offer a clean-cut design and substantial support. Ease of cleaning is noteworthy. No metal moldings are required. The inherent characteristics of Carrara Glass, plus good design, produce a lasting modern appearance. Architect: R. A. Spahn.

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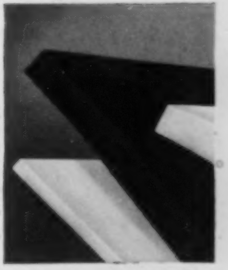

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George E. McDonald, A.I.A., 1715 Madison Rd., Cincinnati 6, Ohio.

Ralph P. Minich, A.I.A., 106 Pennsylvania Bldg., Wilmington 50, Del.

Clarence L. Peterson, Wendell R. Spackman, Architects, 45 Second St., San Francisco 5, Calif.

Russell & Axon, Consulting Engineers, Merchants-Laclede Bldg., 408 Olive St., St. Louis 2, Mo.

Roy M. Schoenbrod and Associates, Architects and Engineers, 1253 N. La-Salle St., Chicago, Ill.

Firm Changes

Announcement has been made by G. J. Maguolo and G. E. Quick, partners in the firm of P. M. O'Meara Associates, that the name of their firm has been changed to Maguolo & Quick, Architects-Engineers. Specializing in ecclesiastical and institutional architecture and engineering, the firm maintains offices at: 4908 Delmar Bldg., St. Louis; 1004 Marquette Ave., Minneapolis; 1304 Macabee Bldg., Detroit; and 936 Temple Bar Bldg., Cincinnati. Associates are Samuel J. Farlow, A.E.; Ralph P. Ranft, Joseph I. Christie, Leon Zaitzevsky, Alfred Widman, Edwin F. Noth, and Laurens P. Cotter, all A.I.A.

Eliel Saarinen, F.A.I.A., and Eero Saarinen, A.I.A., have announced the formation of a new partnership for the practice of architecture under the name of Saarinen Saarinen and Associates, with offices at West Long Lake Rd., Bloomfield Hills, Mich.

ELECTIONS, APPOINTMENTS

James D. Edmunds, Jr., A.I.A., of Baltimore, has been elected chairman of the Construction Industry Advisory Council of the U.S. Chamber of Commerce. Mr. Edmunds is past president of the American Institute of Architects.

Clair W. Ditchy, of Detroit, has been elected secretary of The American Institute of Architects, by action of the Institute's Board of Directors. He succeeds Alexander C. Robinson, III, of Cleveland, who resigned because of the pressure of business. Mr. Ditchy, a practicing architect, formerly had been a member of the Board.

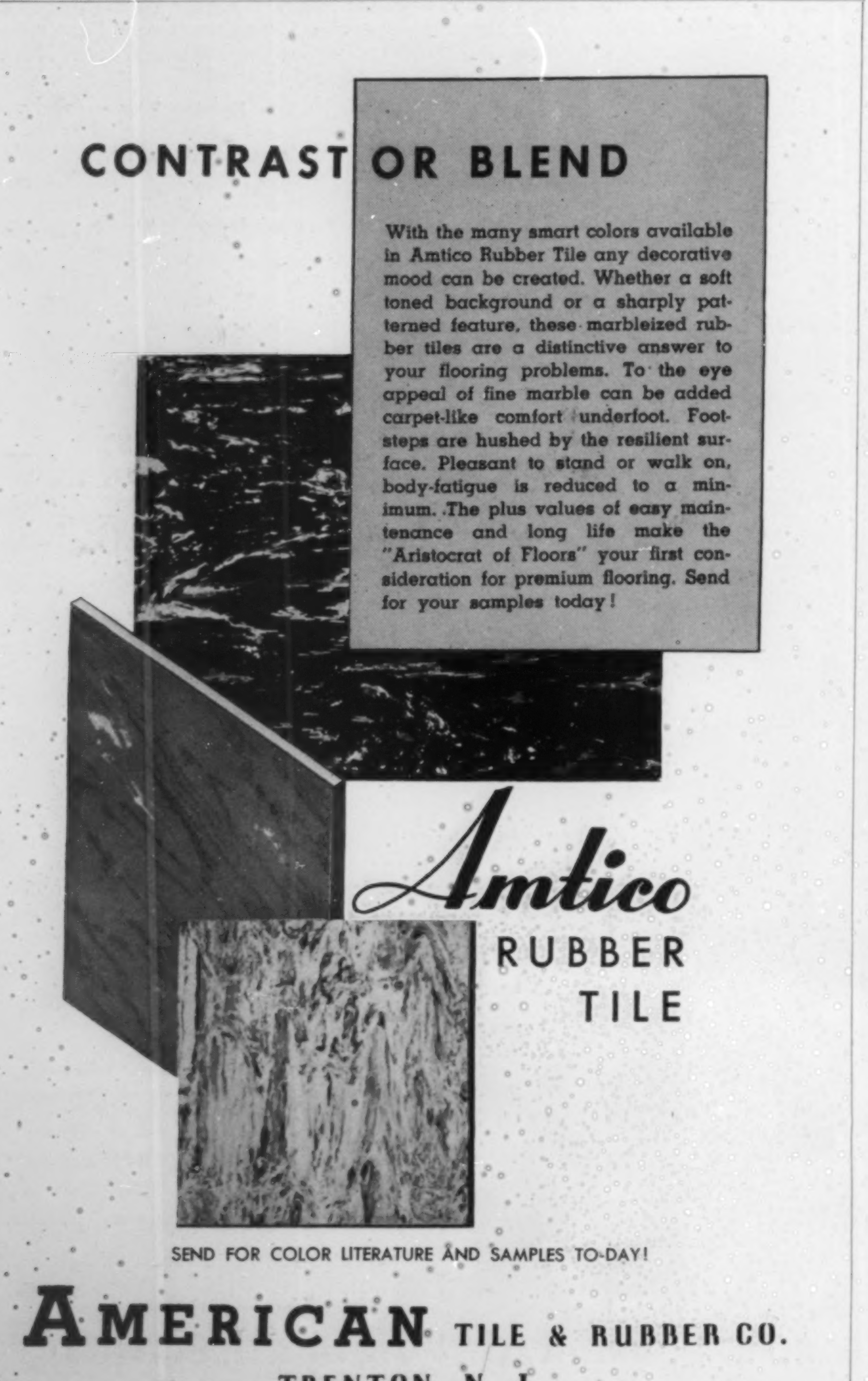
Henry Dreyfuss has been elected president of the Society of Industrial Designers for the 1947–48 year. Elected to serve with him were: Harold Van Doren, vice president; Egmont Arens, secretary; and Ray Patten, treasurer.

James William Gaynor, formerly associated with H. A. Hopf & Co., Consulting Management Engineers of New York, has been appointed Director of Management for the New York City Housing Authority.

CORRECTIONS

An inadvertent omission occurred in the article in the November issue (pp. 86–88) describing the duplex apartment scheme developed by Harvey Wiley Corbett and Charles H. Sacks, Architects, for multi-story maximum-economy housing. No mention was made of the fact that the scheme is patented (Patent No. 2,390,179, Dec. 4, 1945).

Letters received from Graham, Anderson, Probst & White, Architects, of Chicago, and Small, Smith & Reeb, Architects, of Cleveland, call attention to an erroneous credit in the advertisement of Frederic Blank & Co., Inc., on p. 169 of the November ARCHITECTURAL RECORD. Architects for the Cleveland Terminal group of buildings shown in the advertisement were Graham, Anderson, Probst & White. Small, Smith & Reeb were architects for various remodelings in the Hotel Cleveland, which is a part of the Terminal group.



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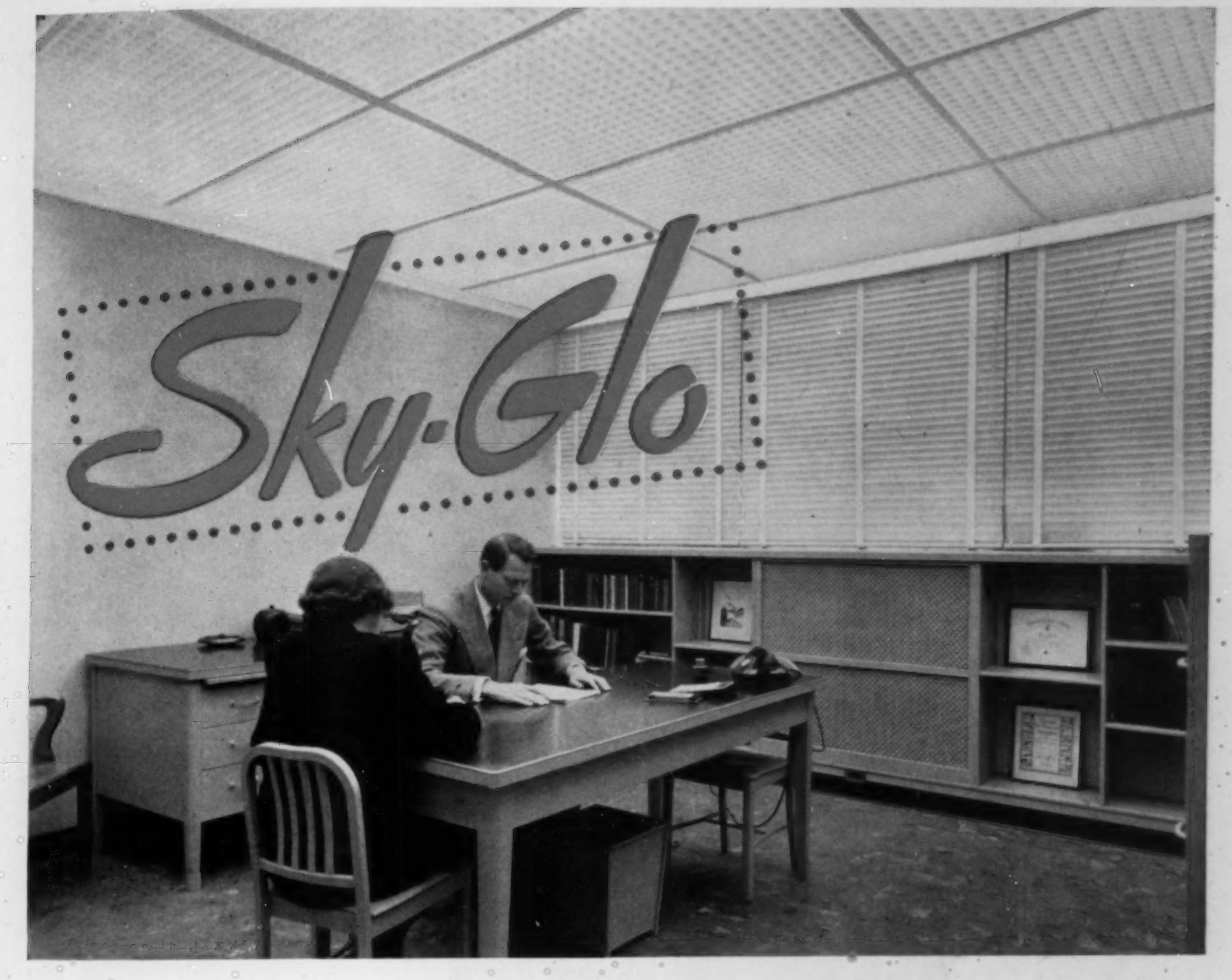

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SKY-GLO is the answer to the Lighting Plan that calls for *Inconspicuous Lighting* with low brightness . . . *More Beauty* with greater seeing comfort! Designed expressly for offices, stores, show windows and other commercial locations, the new Benjamin development features . . .

NEW LUMINOUS VINYLITE LOUVERS

This new system of translucent louvers does more than reflect light . . . it actually glows with light to form a luminous ceiling of unique beauty and atmosphere. This new Benjamin Sky-Glo System is the latest development in "louverall" lighting. With this system it becomes practical to provide . . .

100 TO 125 FOOTCANDLES

of uniform, diffused and comfortable lighting. Crosswise and lengthwise shielding of 45° eliminates glare and uncomfortable brightness. The Sky-Glo System conceals pipes, ducts and fixtures and substitutes at reasonable cost a . . .

MODERN STREAMLINED CEILING

of low brightness with pleasing architectural and decorative patterns.

Write now for complete Data Bulletin on this new Benjamin development.

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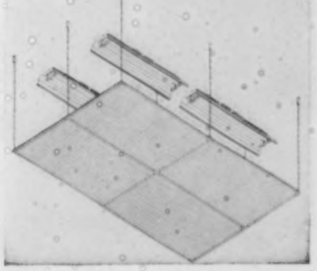
DEPT. O-1, DES PLAINES 12, ILLINOIS

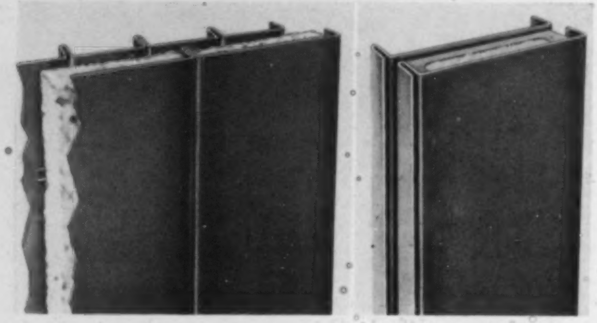
STANDARDIZED STOCK SECTIONS OF LOUVERS, CHANNELS and FITTINGS simplify the layout and installation of the new Benjamin Sky-Glo System. The four sizes of louver sections and the various channel lengths make possible geometric arrangements which provide wide flexibility of design for various ceilings. Louvers are made of Vinylite, a product of The Bakelite Corporation, which has a light transmission factor of approximately 71%. These sections are easily removed for lamp and fixture maintenance and for easy cleaning.



BENJAMIN
TRADE MARK
Lighting Equipment
Distributed Exclusively through Electrical Wholesalers

R-2604 R

(*Continued from page 118*)



Site-assembled and prefabricated steel wall panels have 2-in. fill of Fiberglas; erection is by welding and interlocking panel edges

STEEL WALL PANELS

A new system of steel exterior wall panels is designed for rapid assembly and derives good insulating qualities from a 2-in. fill of Fiberglas. There are two types of walls: the sidewall type which is field fabricated from inside and outside wall plates, rolled from 18- and 20-gauge galvanized steel, stainless steel, or aluminum; and a prefab wall panel which is factory assembled from galvanized steel or stainless steel, with Fiberglas insulation already in place. The heat transmission of the former is quoted as the equivalent of a 28-in. solid masonry wall, and of the latter, an 18-in. wall. Erection at the site is by welding to main structural members, and by interlocking panel edges. The R. C. Mahon Co., Detroit 11, Mich.

ASSOCIATIONS

Certification Program

The American Gas Association has announced a certification program in the interests of scientific kitchen planning, automatic gas cooking, automatic gas refrigeration, and automatic gas water heating. Certificates will be issued to architects and builders by the Association upon recommendation of authorized persons in local gas utility companies, attesting that the specific installation is a *Certified* Gas Kitchen. American Gas Association, 420 Lexington Ave., New York 17, N. Y.

Maple Flooring

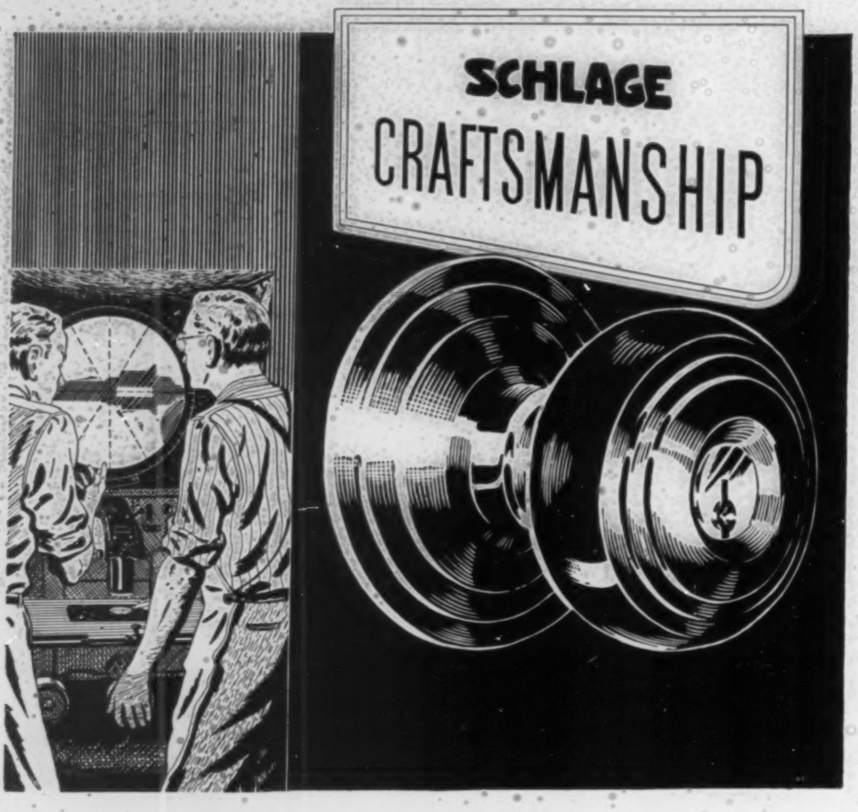
Now celebrating its 50th year of Association activities, the Maple Flooring Manufacturers Association has seen northern hard maple, beech, and birch timber progress from a "give-away" item to a standard flooring material, of which four billion feet were produced in five decades. The Association was formed to improve manufacturing procedures, and has instituted advancements in kiln drying on a scientific basis, added blocks and patterns to original strip flooring, intensified research in floor finish fields, and now supplies technical data on floor construction. Maple Flooring Manufacturers Assn., 332 S. Michigan Ave., Chicago 4, Ill.

Shingles and Shakes

The advantages of red cedar shingles and shakes will be publicized by a newly formed Stained Shingle and Shake Manufacturers Assn. While these products have long enjoyed popularity on the West Coast, particularly in the Northwest, their use is only now coming into prominence east of the Rockies. Such shingles and shakes are pre-stained and require no painting upon application. Permanent headquarters of the Association will be established in Seattle, Wash. President is Philip W. Bailey of West Coast Standard Shingle Co., Seattle.

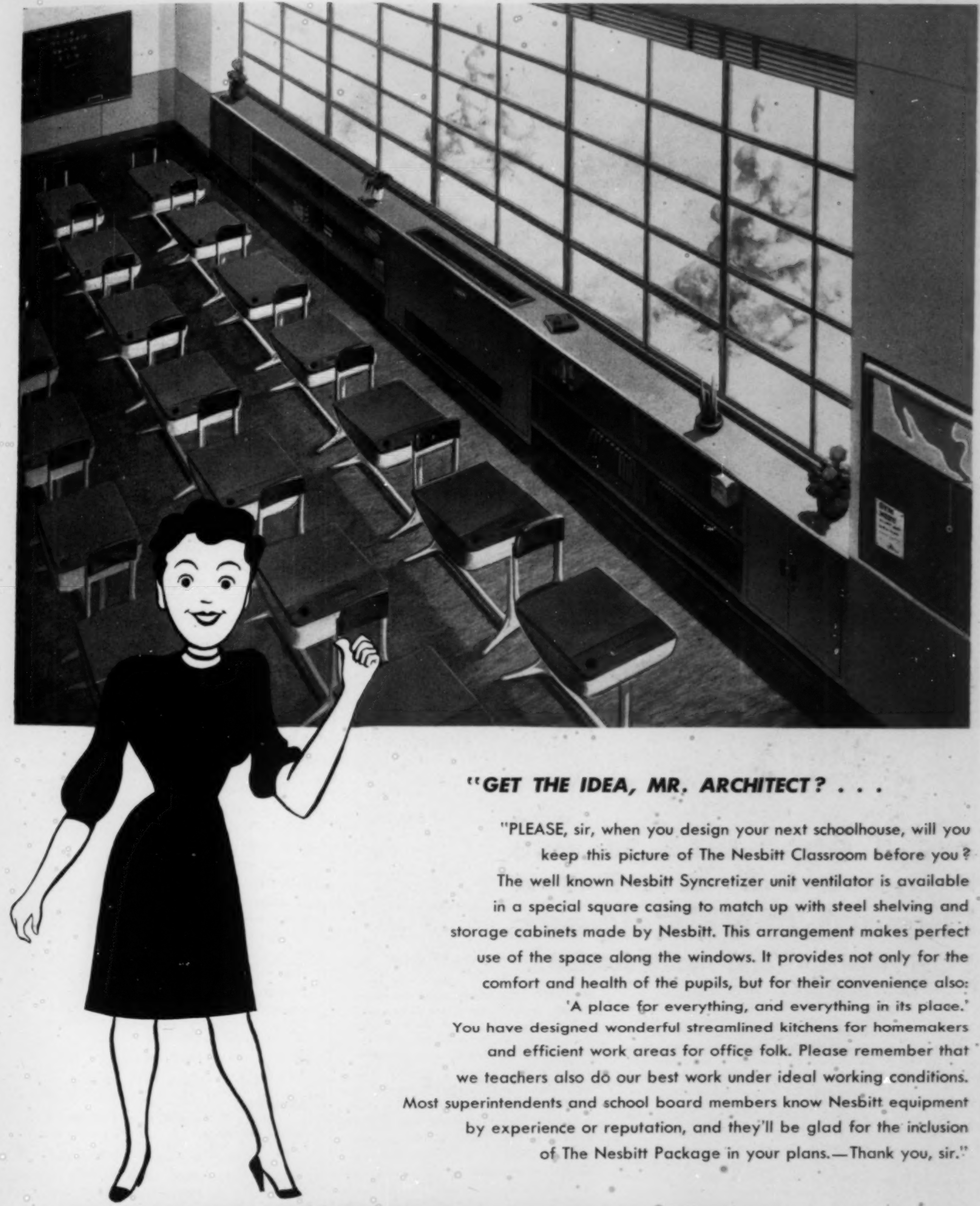
(*Continued on page 142*)

IMPLEMENT OF ARCHITECTURE



The skill of Schlage craftsmen is evident in every Schlage lock. Their experienced hands expertly guide precision machinery through exacting Schlage manufacturing processes. This ideal combination of modern machines and skilled craftsmen provides locks that give a long life of dependable operation.

SCHLAGE
LOCK COMPANY
SAN FRANCISCO • NEW YORK
ORIGINATORS OF THE CYLINDRICAL LOCK



"GET THE IDEA, MR. ARCHITECT? . . .

"PLEASE, sir, when you design your next schoolhouse, will you keep this picture of The Nesbitt Classroom before you? The well known Nesbitt Syncretizer unit ventilator is available in a special square casing to match up with steel shelving and storage cabinets made by Nesbitt. This arrangement makes perfect use of the space along the windows. It provides not only for the comfort and health of the pupils, but for their convenience also: 'A place for everything, and everything in its place.' You have designed wonderful streamlined kitchens for homemakers and efficient work areas for office folk. Please remember that we teachers also do our best work under ideal working conditions. Most superintendents and school board members know Nesbitt equipment by experience or reputation, and they'll be glad for the inclusion of The Nesbitt Package in your plans.—Thank you, sir."

THE NESBITT *PACKAGE*

THE NESBITT PACKAGE IS MADE BY JOHN J. NESBITT, INC., PHILADELPHIA 36, PA., AND SOLD BY NESBITTS AND AMERICAN BLOWER CORPORATION

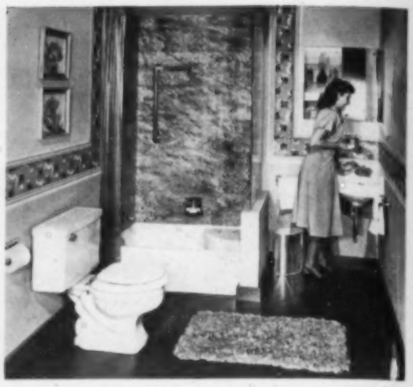
(*Continued from page 140*)

FLUORESCENT FIXTURES

There is a 97-in. Slimline fixture in the *Linolite* line of fluorescent units; available with either two or four lamps. The fixture is 5⅛ in. deep, and has glass side panels and an interchangeable hinged louver or glass door bottom. Also announced is a 49-in. waffle type fixture, with two, three, or four lamps, for ceiling or hanger mounting, single or in continuous runs. The Frink Corp., Long Island City, N. Y.

MINIMUM BATHROOM

For that extra bathroom in extremely limited space, a minimum size corner lavatory, small low bathtub, and toilet can be installed in a space as small as 5 ft. by 6 ft. Overall dimensions of the bathtub, with corner seat, are 42 in. by 31 in. In really cramped quarters, a bathroom with the same fixtures can be achieved in a space 3½ ft. by 6½ ft., by fitting the 42-in. bathtub between two walls and placing the corner lavatory in the corner diagonally opposite that shown in the photograph, or by using a small shower stall in place of the tub. Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.



Minimum size bathtub and corner lavatory

IT'S A GOOD IDEA TO USE D-O-U-B-L-E W-I-D-T-H

Barcol OVERdoors

FOR TWO-CAR GARAGES...

NO CENTER POST. When planning the doors for a two-car garage (either new construction or remodeling), a double-width Barcol OVERdoor offers several worthwhile advantages. The center post is eliminated, amount of door mechanism is reduced, and appearance is better, especially for long and low structures.

EASIER, SAFER DRIVING. With the center post gone, it is a lot more convenient to get cars in and out, particularly if a turn near the door is involved. Clearances are greater, and the chances of colliding with the door frame are reduced. With the present trend in auto design, this is a considerable help.

ELECTRIC OPERATOR. More and more, electric door operators are being used in residence garages. A double-width door offers a saving here, because only *one* operator is needed. It is not mandatory to use an electric operator with a double-width Barcol OVERdoor since tailored counterbalancing makes it easy to handle. For installations with electric operators, the Barcol Radio Control gives the final touch of convenience — control of the door *by radio* from the car! Write for information on all Barcol products, or ask your Barber-Colman representative for details.

SEE OUR CATALOG IN SWEET'S

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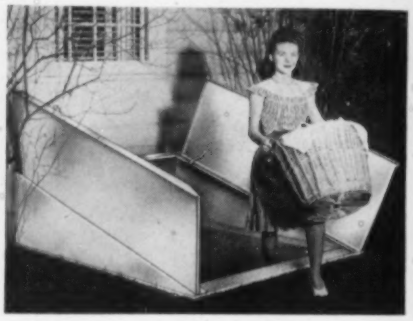


Packaged cellar bulkhead is aluminum

CELLAR DOORS

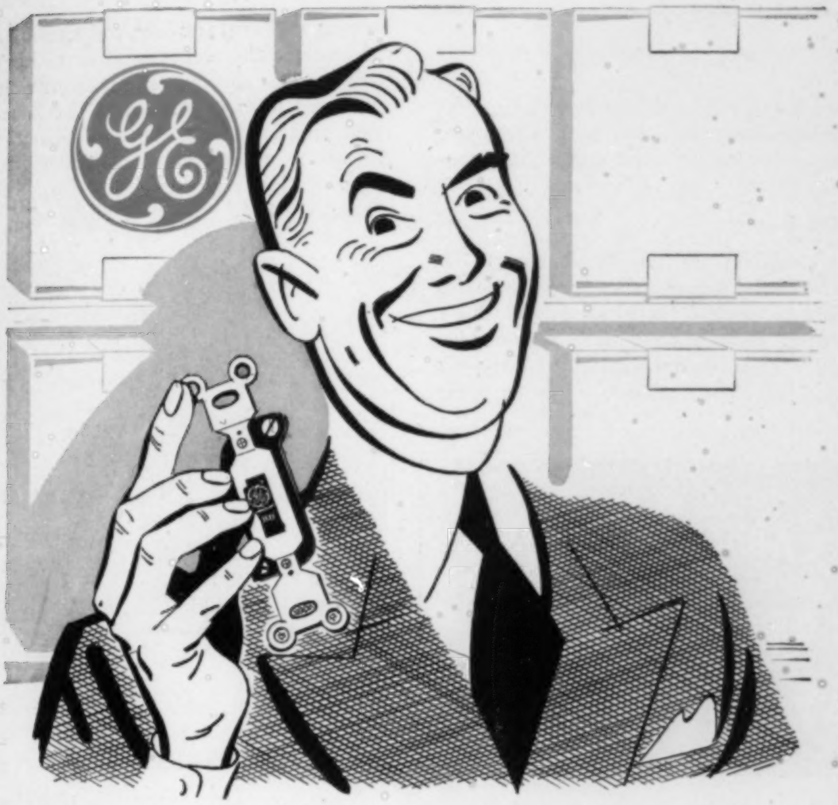
With basements becoming more and more a part of the living quarters of the house, cellar bulkheads provide easier and safer access to the outdoors. Now available as a packaged unit are *Bilco Celladoors*, constructed of copper-steel or aluminum bulkheads and doors. The aluminum models are designed for light weight and easy opening. Units are shipped knocked down in five parts with the necessary assembly bolts and can be constructed in less than an hour when provision is made to receive them, in either frame or masonry construction. There are six different design types, with three sizes in each type. The Bilco Co., 164 Hallock Ave., New Haven, Conn.

HEATING

Steel Boiler

The newly announced *Fitzgibbons 400 Series* of jacketed steel boilers operate on either gas, oil, or hand-fired or stoker-fed coal, for house heating. The boiler is said to be designed on the same principle as steamship and locomotive boilers; and features good combustion and powerful water circulation. No storage tank is required for year-round domestic hot water, which in winter is

(*Continued on page 144*)



This switch says plenty by keeping silent

Shhh! Here's silence that's really golden—for you. Quieter than the drop of a pin (you can hear *that*), yet the G-E Silent Switch's very lack of noise is one of the loudest-talking salesmen you can have on the job.

Think a minute. What builds your customers' confidence in you? It's your reputation and the quality of work you do, of course. But did you ever stop to consider how important, too, is the reputation and performance of the wiring you specify?

That's where G-E Silent Switches come in, and all the other products in the full line of G-E wiring devices. They are the *visible evidence of quality* on every job. Their name signifies long life and reliable service to every user. Why not specify General Electric throughout, and let that big name go to work for you?

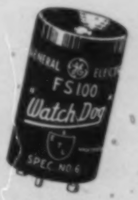
WIRING DEVICES by

GENERAL ELECTRIC

say "G.E." and he'll agree

Wiring Briefs from your G-E Distributors

Are you familiar with the great variety of products in General Electric's full line of wiring devices? Do you know the interesting features that help to make them easy to use and safe to specify? Keep an eye on this column, and you may discover a lot of useful facts and information. We'll keep dishing them out for you.



Now, the entire Watch Dog* line of starters meets a new, high-temperature rating. Maximum recommended operating temperature has been increased from 140 F to 160 F. This is important in installations that are enclosed, or that are subject to high ambient temperatures.

FLUORESCENT ACCESSORIES

Whether you already include fluorescent lighting in your plans, or just want more information for your files, you need this new folder on "G-E Fluorescent Accessories." It shows you—and your clients—what products G.E. is making, and how they can be used to advantage. Tells about Watch Dog* and standard starters; Slimline, Circline, and Twin Turret lampholders; and fluorescent starters and switches. Ask us for a supply today.

A certain well-known soap has nothing on those boys in G.E.'s "fuse factory." Do you know that the zinc used in General Electric fuse links has to be *99.98 per cent pure* by laboratory test? Good point to remember when you specify fuses for that next job.

If you want additional information on these or other G-E Wiring Devices, ask us—your G.E. Merchandise Distributor—or write to Section D52-15, Appliance and Merchandise Dept., General Electric Co., Bridgeport 2, Conn.

**Trade-mark Reg. U.S. Pat. Off.*

(*Continued from page 142*)

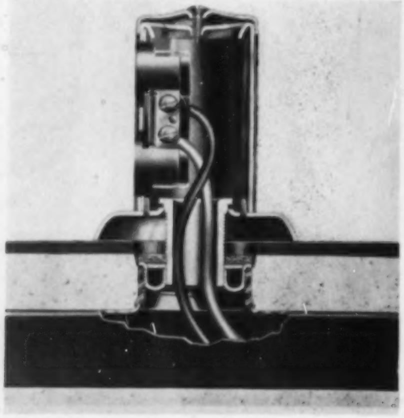
heated simultaneously with the house heating system and in summer by a reduced burner setting. Fitzgibbons Boiler Co., Inc., 101 Park Ave., New York 17, N. Y.

Warm Air

Coroaire forced warm air units feature a venturi tube heat exchanger which reportedly results in more efficient, larger heating capacity. Inside, the hot flue gases take a retarded course around staggered tubes, thus preventing an excessive heat or stack loss. Units are available for gas or oil firing. The Coroaire Heater Corp., Cleveland 15, Ohio.

Oil-Burner

Designed for the small house, the *Hoffman Controlled Heat furnace* comes in two models, for basement or utility room. Both operate with a two-stage oil burner, thermostatically controlled; and have a stainless steel flame baffle for increased heat transfer, and a tubular radiator for the recovery of extra heat from the hot flue gases. The warm air circulated from it is filtered. The basement model has a 75,000 Btu capacity; the utility room model, a 70,000 Btu capacity. Hoffman Specialty Co., Indianapolis, Ind.



Improved outlet has standard threading

UNDERFLOOR DUCTS

The *Nepcoduct System* of simplified electrical floor outlets now has a $1\frac{1}{2}$-in. standard pipe threaded outlet. This outlet has sufficient wall thickness to permit a standard pipe thread of sufficient length for good mechanical and grounded connection. The coarse threads permit desired tolerance with assurance against thread stripping. These features are particularly important for industrial installations of underfloor ducts where conduit nipples are used in a run to disconnect switches, or to machinery splice boxes. For telephone work or other specific applications, a $2\frac{3}{8}$-in. "T" type outlet can be supplied. National Electric Products Corp., Chamber of Commerce Bldg., Pittsburgh 19, Pa.

WIRED MOLDING

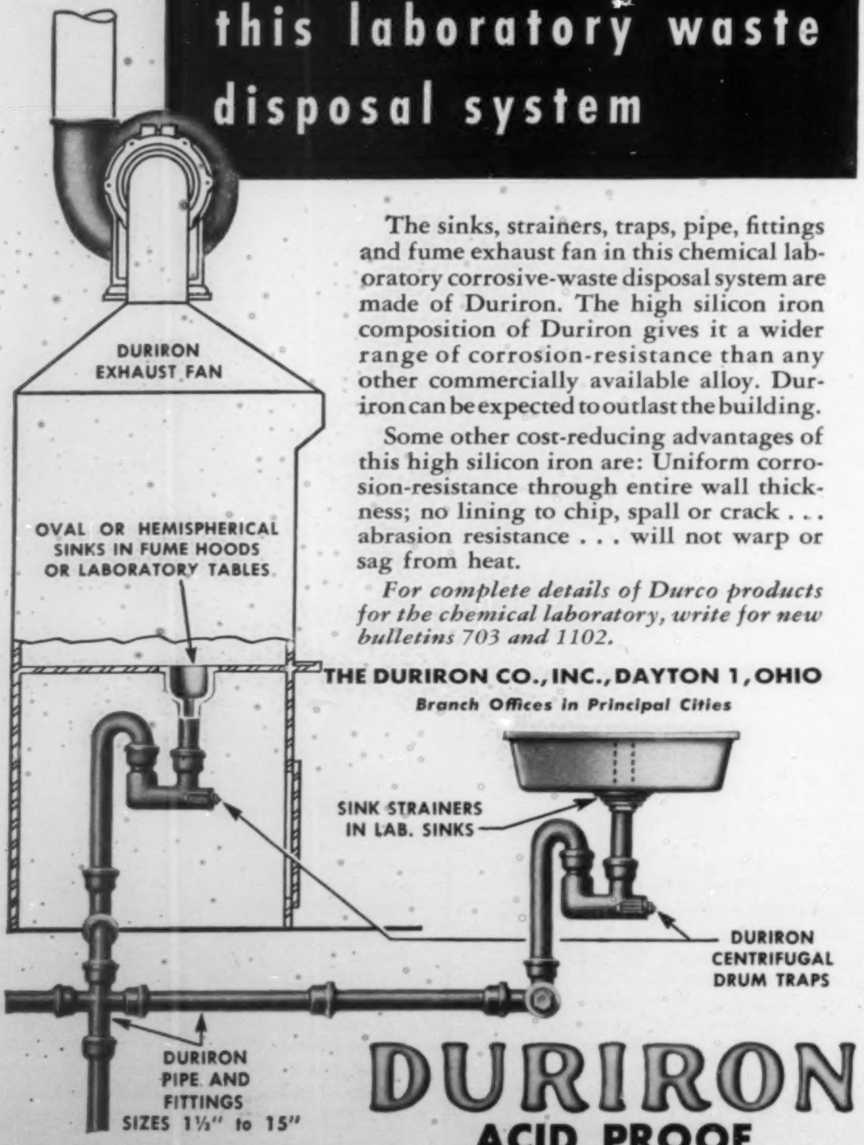
For increased convenience in locating electrical outlets, the *Wired Plugmold*, with outlets on 6-in. or 18-in. centers, can be installed around the room, above the baseboard or at any desired wall height. The molding is under 1 in. in width; lengths are 3 ft. and 6 ft. The Wiremold Co., Hartford 10, Conn.

DRAWING PERSPECTIVES

The *Perspectigraf* was designed by Llewellyn Price, Architect, as a mechanical means of drawing perspectives. The drawing kit consists of the following units: a Perspectiscale with four different scales, each with subdivisions in regularly diminishing perspective values; two templates or guides, with a total of four arcuate edges (Vanishing Arcs) which complement the four scales; a Perspectivedge or straightedge with an

(*Continued on page 146*)

WHY CORROSION CAN'T DESTROY this laboratory waste disposal system


DURIRON EXHAUST FAN
OVAL OR HEMISPHERICAL SINKS IN FUME HOODS OR LABORATORY TABLES
SINK STRAINERS IN LAB. SINKS
DURIRON CENTRIFUGAL DRUM TRAPS
DURIRON PIPE AND FITTINGS SIZES 1½" to 15"

The sinks, strainers, traps, pipe, fittings and fume exhaust fan in this chemical laboratory corrosive-waste disposal system are made of Duriron. The high silicon iron composition of Duriron gives it a wider range of corrosion-resistance than any other commercially available alloy. Duriron can be expected to outlast the building.

Some other cost-reducing advantages of this high silicon iron are: Uniform corrosion-resistance through entire wall thickness; no lining to chip, spall or crack . . . abrasion resistance . . . will not warp or sag from heat.

For complete details of Durco products for the chemical laboratory, write for new bulletins 703 and 1102.

THE DURIRON CO., INC., DAYTON 1, OHIO
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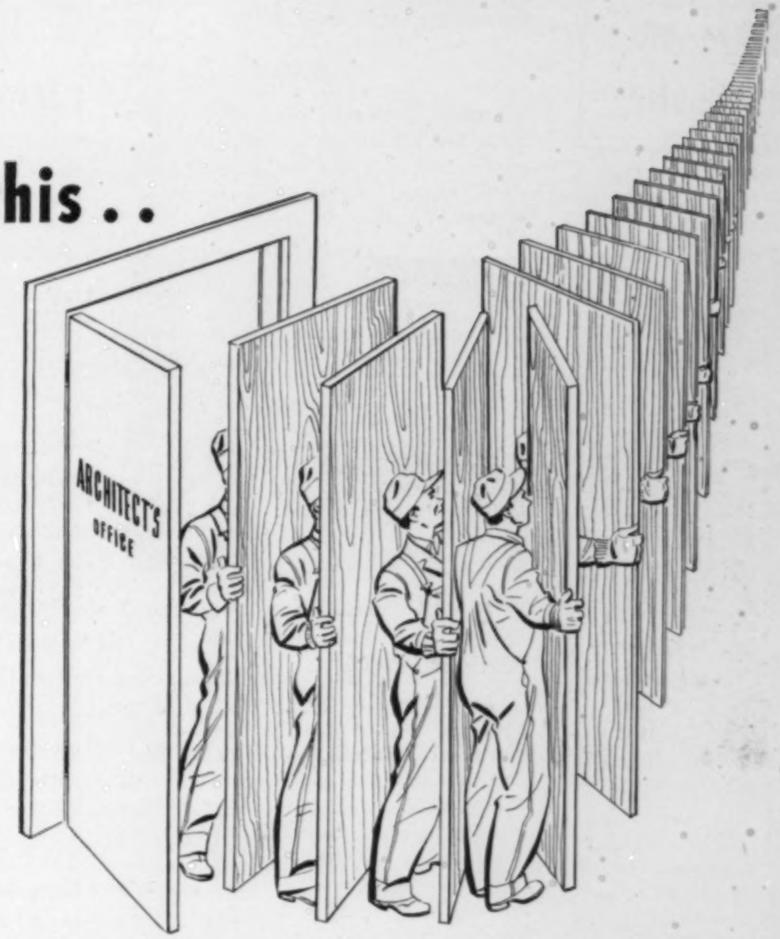
DURIRON
ACID PROOF
DRAIN PIPE

52-GM

What's this . .



. . delivering Roddiscraft doors from an Architect's office?

YES — delivery of Roddiscraft Flush Veneer Doors actually begins at your door. The pattern for delivery is laid down on the architect's board, because delivery largely depends on the specification of stock sizes by the architect.

Concentration on stock sizes permits us to get maximum production from men and materials. It means more doors for everyone — On the other hand, odd sizes and special details are a serious brake on door output.

Plan for stock sizes when you draw your plans. Then we can plan to meet your needs with warehouse stocks ready for delivery when and where you want them.

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

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Detroit, Mich. . 11855 E. Jefferson Ave.
Kansas City 8, Mo. 2729 Southwest Blvd.
Louisville 10, Ky. . . 1201-5 S. 15th St.
Long Island City, N. Y., ... Review & Greenpoint Ave.
Los Angeles 11, Calif., 2860 E. 54th St.
Marshfield, Wis. . . 115 S. Palmetto St.
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DEALERS IN ALL PRINCIPAL CITIES

Roddiscraft

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MARSHFIELD, WISCONSIN

Hospital Saves on Cost of Heating

Delaware Hospital, Wilmington, Delaware. Heated by 6-zone Webster Moderator System of Steam Heating. Completed in 1942. Unit No. 1, center, occupied in 1940. Architects: Massena & duPont, Wilmington, Consulting Engineers Jaros, Baum & Bolles, New York. General Contractor: Turner Construction Co., Philadelphia. Heating Contractor: Benjamin F. Shaw Co., Wilmington.

When a hospital spends in the neighborhood of $30,000 annually for fuel oil, that's big business. It calls for a "controllable" steam heating system and careful heating plant operation to effect maximum economies.

The outstanding heating record of the new Delaware Hospital is based on a "Controlled-by-the-Weather" Webster Moderator System of Steam Heating, designed by Jaros, Baum & Bolles, New York Consulting Engineers.

At the time fuel-rationing went into effect it was estimated that 620,000 gallons of fuel oil would be required . . . a fuel rationing board allotted 500,000 gallons for all purposes — heating, sterilizers, laundry, kitchen equipment.

Records show that the Hospital did not require a supplementary ration. This splendid performance was obtained by a combination of a soundly designed Webster Moderator System, a craftsmanlike installation by Heating Contractor Benjamin F. Shaw and skilled operation under Chief Engineer Carl A. Baehr.

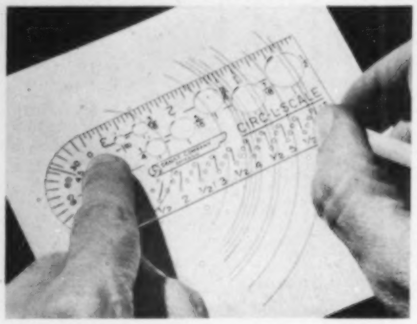
Let Webster experience help you in your heating system management problems.

WARREN WEBSTER & CO., Camden, N. J.
Representatives in principal U. S. Cities : : Est. 1888
In Canada: Darling Brothers, Limited, Montreal

WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

(*Continued from page 144*)

especially patterned head that guides upon the Vanishing Arc; and the Basedge which acts as a guide for drawing vertical lines. Letterite Company, Fort Washington, Pa.



Vest-pocket guide for drawing curves

DRAWING AID

A small vest-pocket template of Vinylite plastic, known as the *Circ-L-Scale*, serves as a mechanical drawing tool. On one side is a rule, graduated into 1/16-in. calibrations. A pivot button and a series of holes for the pencil point permit the drawing of circles from 5/8 to 6 in. diam.; and cut-outs serve as a guide for circles of smaller diameter. Danat Co., 315 West Van Buren St., Chicago 7, Ill.

WALL PAINT

Rubber-base paint, originally developed as an alkali-proof and chemical-resistant coating for concrete, is now being produced in a special form for painting interior walls. Known as *Paratex Wall Coating*, this self-sealing paint reportedly can be applied equally well to painted or unpainted walls of wallboard, brick, concrete, rough or smooth plaster, over oil-resin-emulsion paints, and even over wallpaper. No priming coat is required. It gives a soft non-gloss finish. Truscon Laboratories, Detroit, Mich.

STAIR NOSING

A non-slip abrasive is incorporated in *Tuff-Tred Safety Stair Nosings*, which contain no ridges to cause possible tripping. They can be installed with all types of resilient floor coverings, rabbeted into wood floors, or placed in concrete or terrazzo stairs. There is a choice of square edge and round edge designs, with treads in different colors. Goodloe E. Moore Co., Danville, Ill.

STAGING BRACKETS

Two new types of steel staging brackets for roofs have been introduced: one is flat, pierced with three holes for holding to the roof and also pierced for attaching

(*Continued on page 148*)

HOSPITALS NEED MODERN STEAM HEAT

CENTRAL MICHIGAN COMMUNITY HOSPITAL Mt. Pleasant, Michigan. J. Walter Leonard, Chairman, Hospital Board. Built 1942. Architect: James Gamble Rogers, Inc., New York. Consulting Engineer: Jaros, Baum & Bolles, New York. Heating Contractor: A. W. Eurich, Bay City, Michigan.

Modern Steam Heating is almost a synonym for the Webster Moderator System of Steam Heating.

In the Central Michigan Community Hospital, illustrated, the Webster Moderator System is proving its worth in a *small* hospital building. In the Delaware Hospital, Wilmington, Del., and in the U. S. Navy's tremendous Bethesda, Md., installation, Moderator Systems are proving their desirability in larger hospitals.

The Moderator System gives the Central Michigan Community Hospital:

(1) Quick heat everywhere in proportion to need.
(2) No override. When sun streams in, a turn of the wrist shuts off steam. No stored heat to run the temperature up, to tempt excessive window openings.
(3) Automatic control-by-the-weather through an outdoor thermostat.
(4) Low radiator temperatures in mild weather due to the jet orifice mixture of steam and air in each radiator or convector.
(5) A simple system whose mechanical and electrical elements are easy to maintain.

When discussing heating of a new hospital or revamping of an old heating plant, the nearest Webster representative is ready to work with you. He is experienced and interested in helping owner, architect, engineer and installing contractor.

WARREN WEBSTER & CO., Camden, N. J.
Representatives in principal U. S. Cities : : Est. 1888
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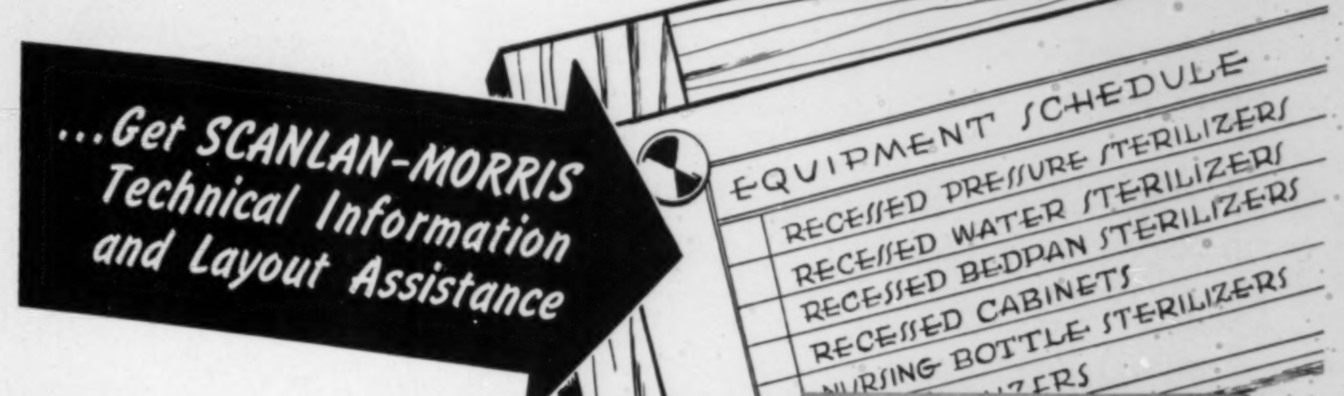
WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

WHEN PLANNING HOSPITAL MATERNITY DEPARTMENTS



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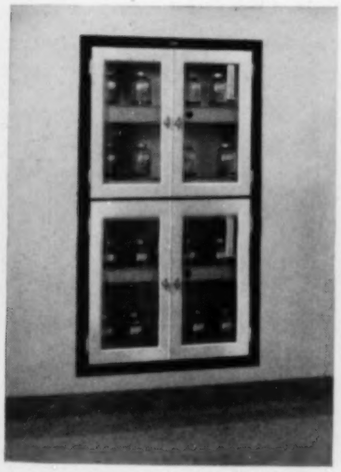
RECESSED CABINETS
NURSING BOTTLE STERILIZERS

- Competent planning for the practice of strict techniques of asepsis in maternity departments (as well as surgeries) calls for comprehensive knowledge of hospital requirements and equipment.

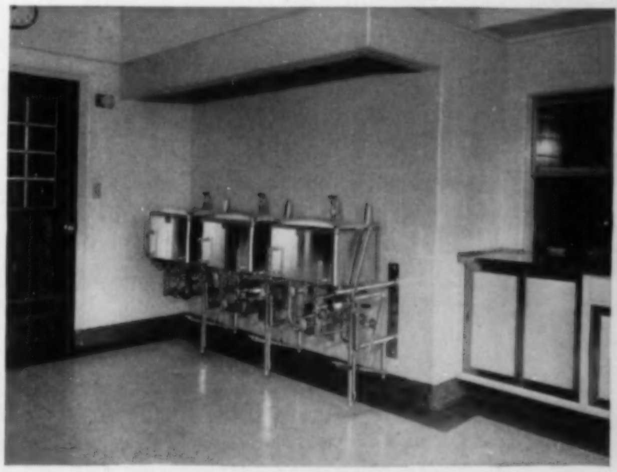
As designers and manufacturers, for more than 40 years, of major hospital equipment including sterilizers, surgical lights and tables, and recessed custom-built metal cabinets, Scanlan-Morris is qualified to give valuable assistance and authentic guidance in hospital planning installation of suitable equipment.

Our Technical Sales Service Department will be glad to supply specific information, suggested layouts, and recommendations for efficient, economical installations. This service is available to hospital architects, without obligation. Mail the coupon for detailed information.

SCANLAN-MORRIS
Recessed Water Sterilizers and Autoclave



SCANLAN-MORRIS
Recessed Solution Warming Cabinet



SCANLAN-MORRIS
Nursing Bottle Sterilizers

SCANLAN-ORBIT
Bedpan Washer-Sterilizer

Ohio Chemical

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☐ Scanlan-Orbit Bedpan Apparatus.
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CONTROL

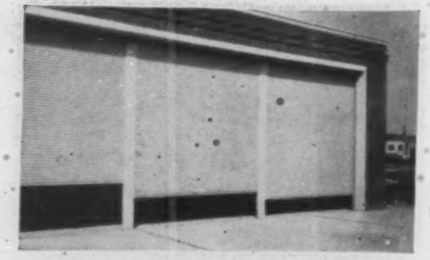
of Door Costs

Quick, easy, push-button control featured by Kinnear Motor Operated Rolling Doors gives you a tighter grip on *all* door costs. It helps cut heating and air-conditioning costs through prompt, rapid closing of doors. It saves time and steps (you can have any needed number of additional controls at remote points). It avoids traffic bottlenecks at doorways, and along with these operating advantages, you get the extra durability, protection and space-saving efficiency of these rugged, all-steel doors with their world-famous coiling upward action.

with MOTOR OPERATED

KINNEAR DOORS

Built any size, for installation in old or new buildings. Write today for complete information.



KINNEAR
ROLLING DOORS

The KINNEAR MFG. COMPANY
FACTORIES
1860-80 Fields Ave. • Columbus 16, Ohio
1742 Yosemite Ave. • San Francisco 24, Calif.
Offices and Agents in Principal Cities

(Continued from page 146)

a triangular piece of 2-by-4 lumber to form a platform rest; the other is pierced for holding to the roof, but bent to hold a 2-by-4 stringer. Special Devices, Inc., Berlin, Conn.

PLYWOOD PANELING

Weldwood is a new type of plywood paneling, consisting of 16 in. wide panels of birch wood with grooved edges that give an overlapping effect. The plywood face is prefinished in the factory. U. S. Plywood Corp., 55 W. 44th St., New York 18, N. Y.

PLUMBING FIXTURES

The *Feather-Touch* line of plumbing fixtures features streamlined appearance through the elimination of metal valve seats, washers, and ordinary packing, which are replaced with "O" rings. This construction is said to give "easy touch" opening and closing, long operating life, and simplified replacement. H. B. Salter Manufacturing Co., 10 Main St., Marysville, Ohio.

STANDARDS

Prefabricated Houses

A new commercial standard, CS125–47, "Prefabricated Homes (Second Edition)," has been adopted, effective for new production from Nov. 25, 1947. The standard sets forth minimum requirements for such houses, covering light and ventilation, space access and privacy, structural strength, insulation, condensation control, heating, plumbing, and wiring; also, materials and workmanship, site erection, and assembly of prefabricated units. National Bureau of Standards, U. S. Dept. of Commerce, Washington 25, D. C.

STANDARDS

Asphalt Tile

A new standard, "Simplified Practice Recommendation, R225–47, Asphalt Tile," has been published by the Department of Commerce, and represents a voluntary recommendation of the trade. It covers color groups and dimensions for both asphalt tile and asphalt cove base. Superintendent of Documents, Washington 25, D. C. *5 cents.*

Pipe Fittings

Printed copies of "Simplified Practice Recommendation, R185–47, Pipe Fittings," are now available. The recommendation applies to gray cast iron, malleable iron, and brass or bronze fittings. A comprehensive group of fittings for sprinkler fittings is included, in addition to the regular line for other purposes. Superintendent of Documents, Washington 25, D. C. *10 cents.*

Costly wall sweating this inexpensive way

• Bird Neponset Black Vapor Barrier applied on the warm side of insulation prevents "in-wall" moisture damage—it repels vapor, keeps insulation at peak efficiency and stops other condensation evils.

Bird Neponset Black Vapor Barrier costs only about $20.00 to protect a $10,000 house. Consult Sweet's Architectural File, 9b-2. For sample write Bird & Son, inc., 180 Washington Street, East Walpole, Mass.

VAPOR BARRIER
BIRD NEPONSET PRODUCTS
OUTSIDE OF WALL COLD SIDE
INSIDE OF WALL WARM SIDE
SHEATHING
STUD

Specifications — Roll width: 36"; square feet: 500; approximate weight: 50 lbs. Asphalt saturated. Coated both sides with glossy asphalt surface. Meets Federal Specifications UU-P-536 Grade B.

BIRD NEPONSET BLACK VAPOR BARRIER
BIRD & SON, inc., East Walpole, Mass.
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New... Improvements in PRECISE SURGICAL LIGHTING... PRODUCED BY HOLOPHANE RESEARCH

In the field of surgery, precision lighting is of crucial importance. Holophane engineering has provided outstanding improvements in this specialized illumination. Consider the features that distinguish new Holophane surgical lighting systems from all others:

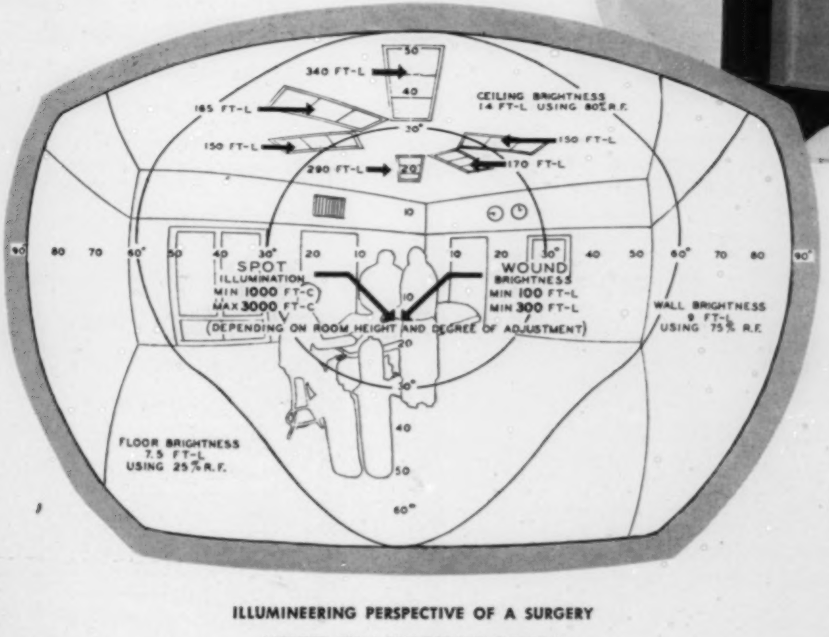
EFFICIENT . . . Scientific grouping of enclosed multi-lens optics assures maintenance of intense illumination—without sacrifice of correct brightness throughout the entire field of view.

SAFE . . . Location of lighting systems remote from anaesthetization zone eliminates hazards of explosion; multiple lamping avoids danger of interruption from lamp burnouts.

ASEPTIC . . . Permanently flushed into tight ceiling enclosures. No moving parts to dislodge dust.

MODERN . . . Direction and pattern of light are pre-set—can be changed, without distracting surgeon, by remote wall switches.

Demonstration Installation in the Holophane Light and Vision Institute


340 FT-L
50
40
165 FT-L
CEILING BRIGHTNESS 14 FT-L USING 80% R.F.
150 FT-L
30°
150 FT-L
290 FT-L
20
170 FT-L
10
90° 80 70 60° 50 40 30° 20 10 10 20 30° 40 50 60° 70 80 90°
SPOT ILLUMINATION MIN 1000 FT-C MAX 3000 FT-C
WOUND BRIGHTNESS MIN 100 FT-L MIN 300 FT-L
(DEPENDING ON ROOM HEIGHT AND DEGREE OF ADJUSTMENT)
WALL BRIGHTNESS 9 FT-L USING 75% R.F.
FLOOR BRIGHTNESS 7.5 FT-L USING 25% R.F.
20
30°
40
50
60°

ILLUMINEERING PERSPECTIVE OF A SURGERY
LIGHTED BY 6 HOLOPHANE F-1715-3

VISUAL COMFORT—Diagram at left shows that brightness contrasts throughout the operating room are extremely low. The lenses that could conceivably cross the surgeon's glance are only $1\frac{1}{2}$ times brighter than the minimum wound brightness; are less bright than the maximum wound brightness.

THERMAL COMFORT—No matter what the surgeon's position, lights that his body blocks can be switched off to reduce temperature rise on surgeon's back—important in lengthy operations. In addition, the use of heat-absorbing lenses accomplishes two purposes: reduces the direct infra-red transmission (heat waves) and corrects the light color toward true white.

Write for engineering data on Holophane's "New Surgical Lighting Systems" including special installations.

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